

VOL. 75

NO. 4

textile bulletin

APRIL • 1949

Featured in this issue is the American Cotton Manufacturers Association convention, held recently at Palm Beach, Fla. The report begins on Page 55.

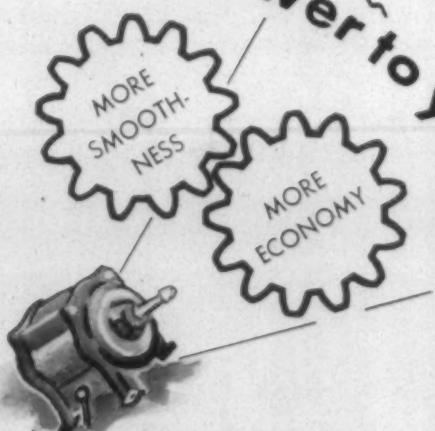
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PRECISION ACCURACY MOTOR PINIONS

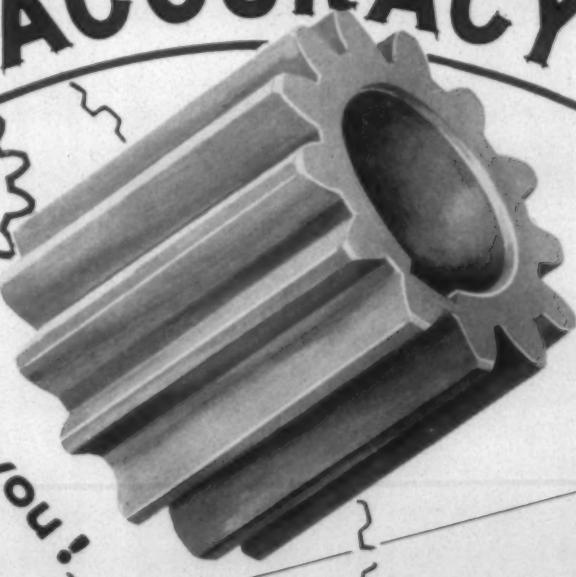
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MAY 2 1949



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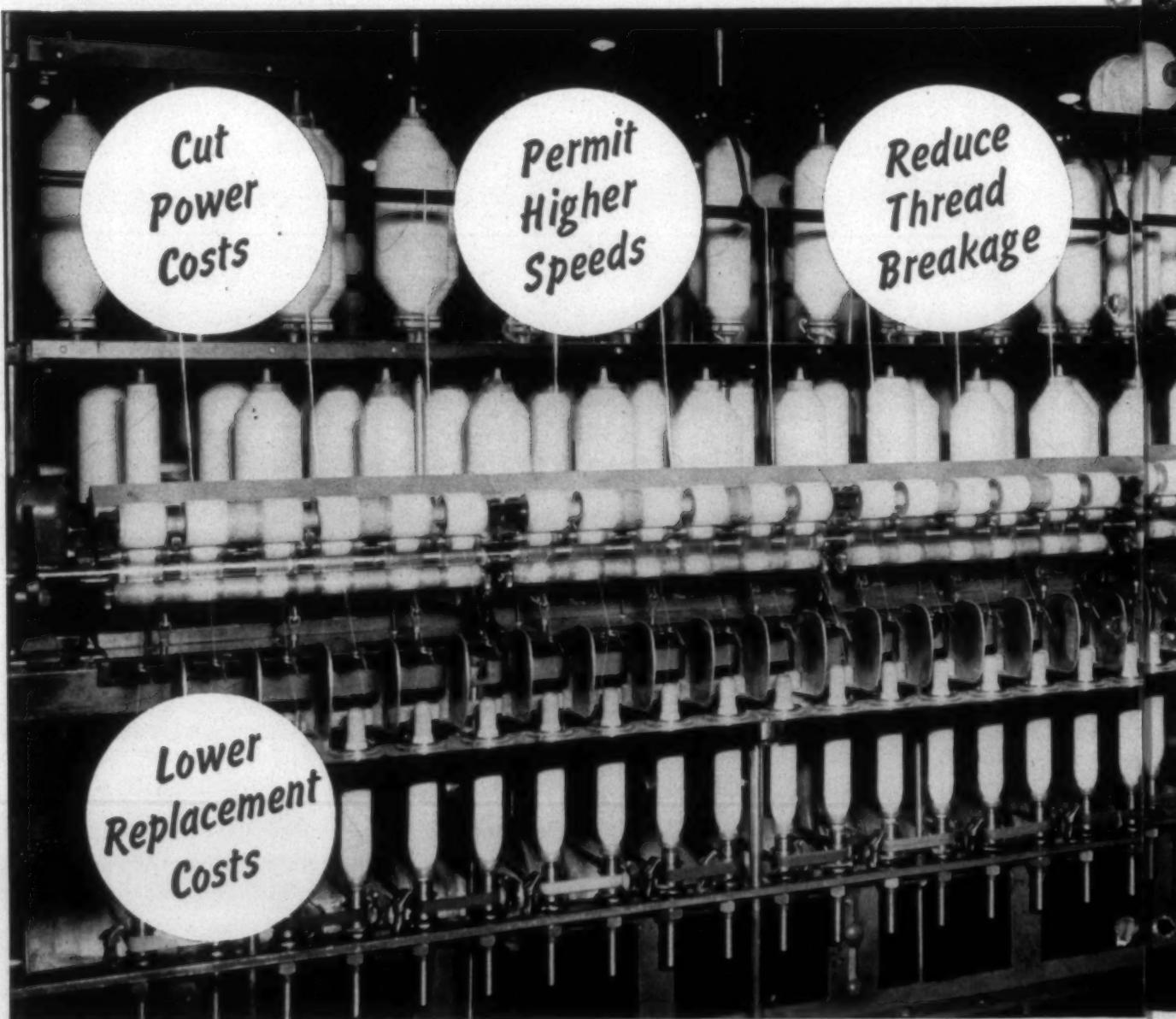
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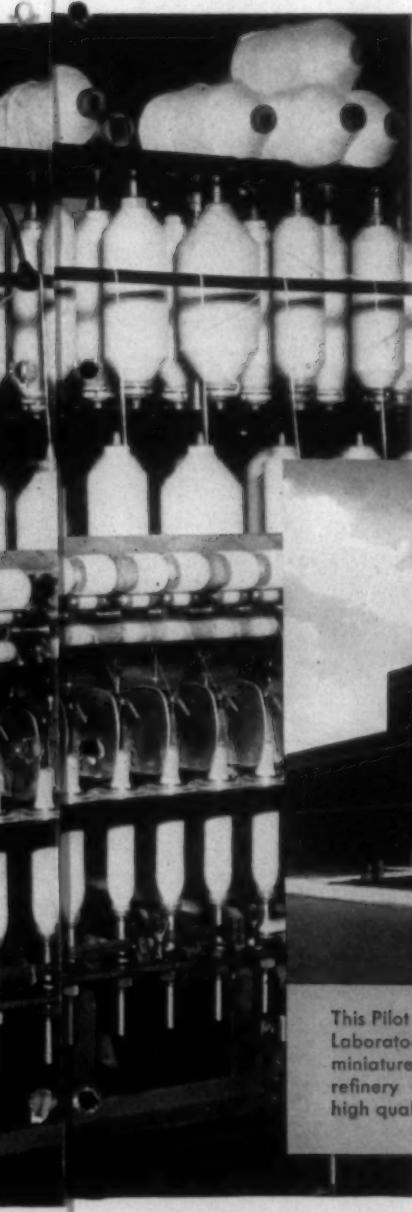
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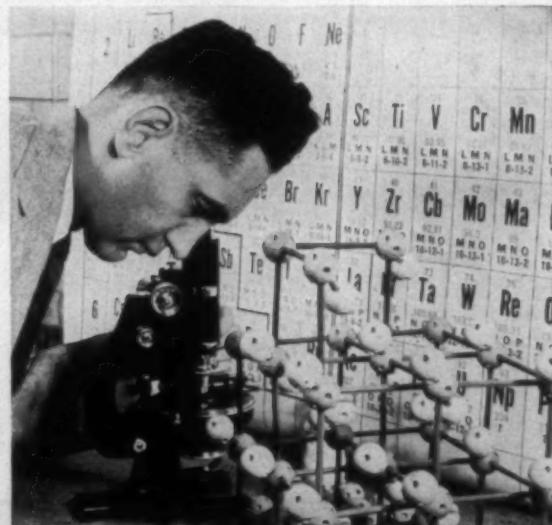


In a textile mill, wear of bolsters on the spinning frame allows spindles to wobble and causes uneven draft . . . which affects the perfection of the yarn. Replacements of worn bolsters add to production costs.

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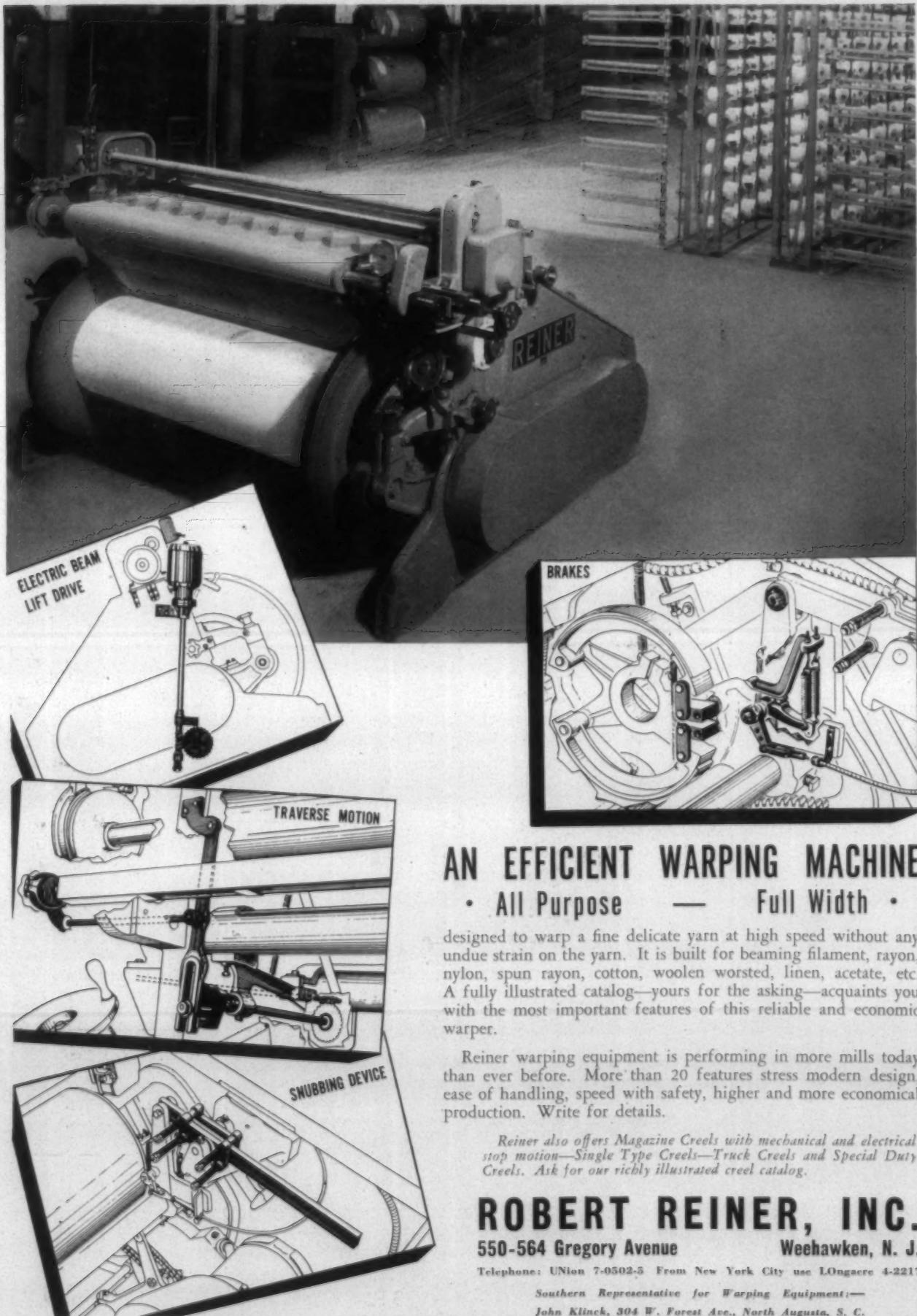
This Pilot Plant, part of the great Sinclair Research Laboratory at Harvey, Ill., provides space for six miniature operating replicas of commercial-sized refinery units. Continuous research explains the high quality of LILY WHITE and other Sinclair Oils.



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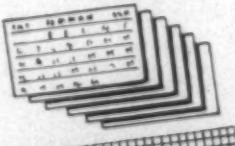
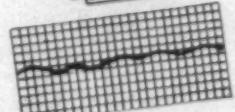
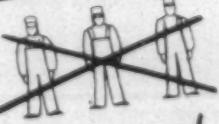
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Telephone: UNION 7-0502-5 From New York City use LOngacre 4-2217

Southern Representative for Warping Equipment:
John Klinck, 304 W. Forest Ave., North Augusta, S. C.

April, 1949 • TEXTILE BULLETIN

Case history of the SACO-LOWELL continuous Card Stripper

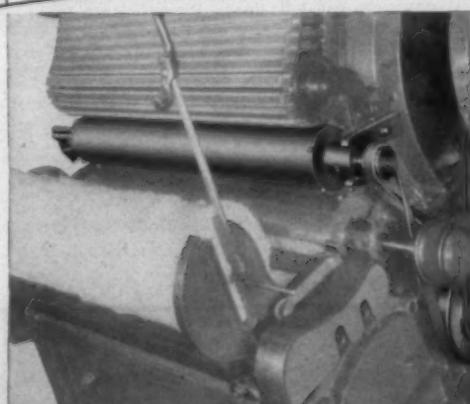
(name on request)		COMMENTS
	Strippers in operation	445
Obtained 77% increase in time between grindings	 	
No difference in break of yarn		
Maintenance problems ... routine!		
General comment on performance - "much pleased"	100%	

... Easy to install,

on practically all revolving flat cards, the SACO-LOWELL Continuous Stripper *operates without added cost*. It recovers up to 2% additional fibre, reduces waste, nep count and lost production . . . makes a cleaner and more uniform sliver.

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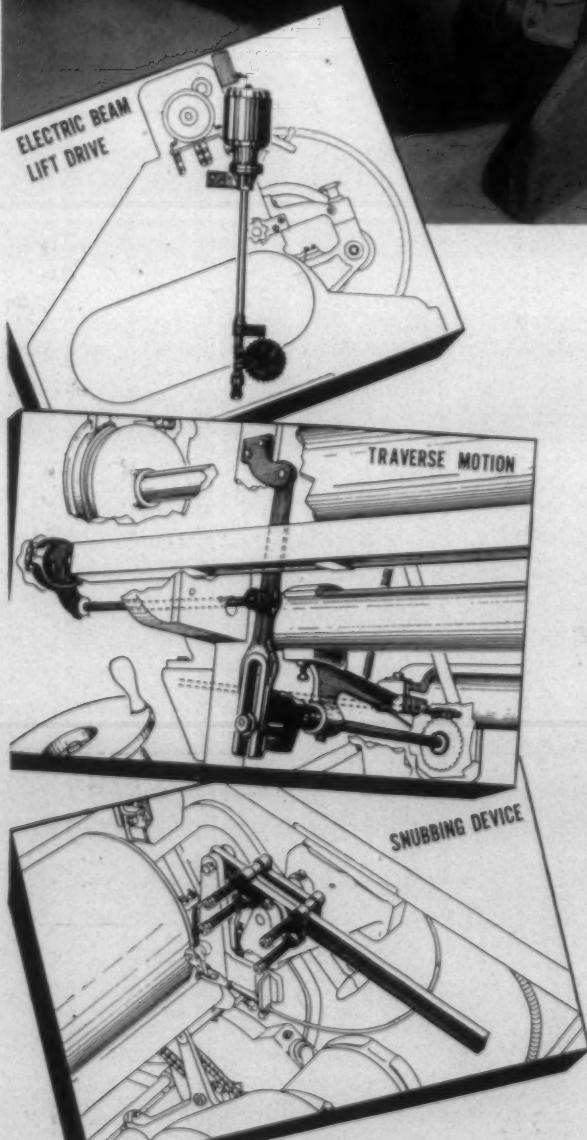
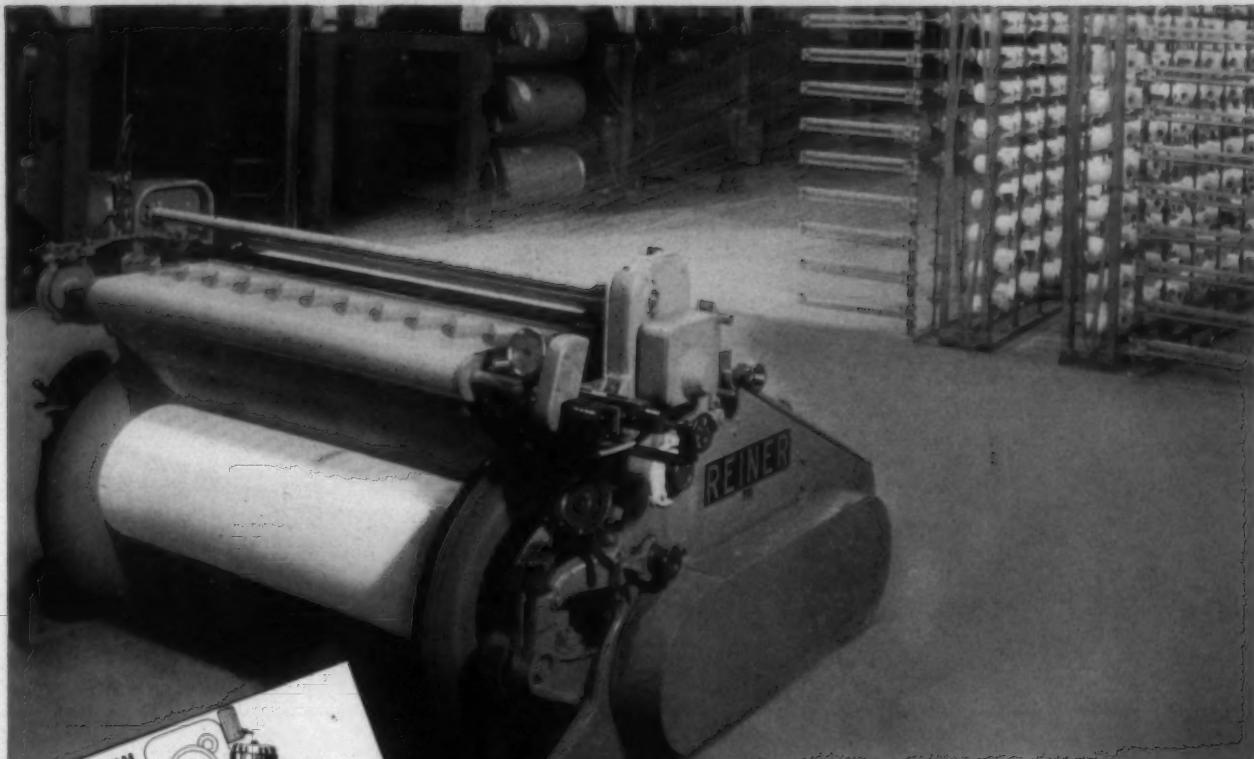


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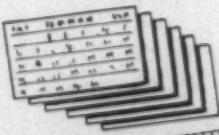
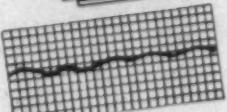
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April, 1949 • TEXTILE BULLETIN

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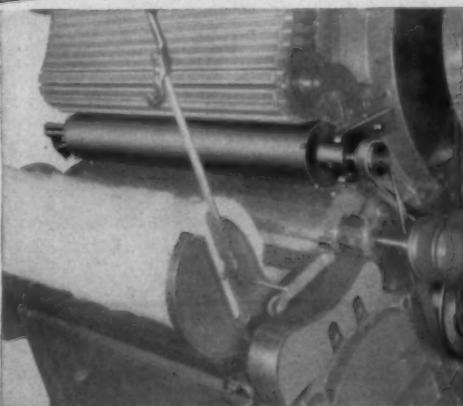
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... Easy to install,

on practically all revolving flat cards, the SACO-LOWELL Continuous Stripper *operates without added cost*. It recovers up to 2% additional fibre, reduces waste, nep count and lost production . . . makes a cleaner and more uniform sliver.

STATISTICS SHOW that this Continuous Card Stripper will liquidate its capital investment in about 14 to 16 months!

On request to our nearest Sales Office,
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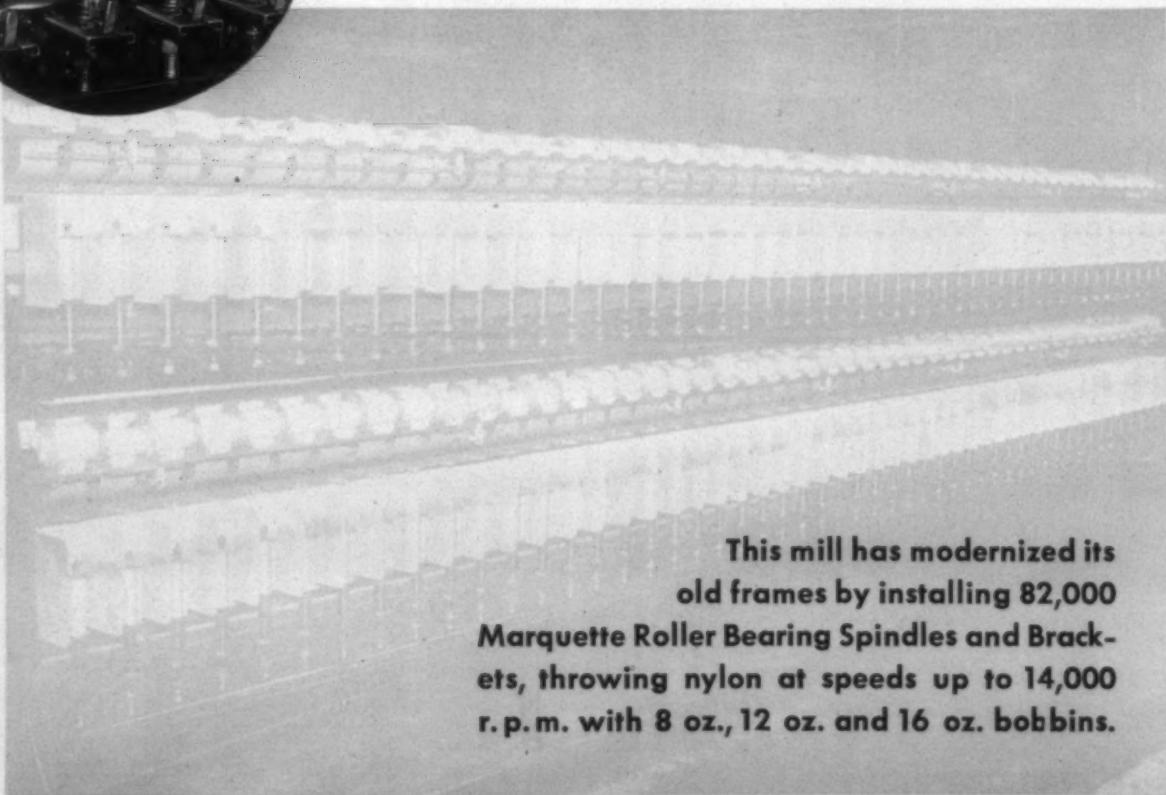
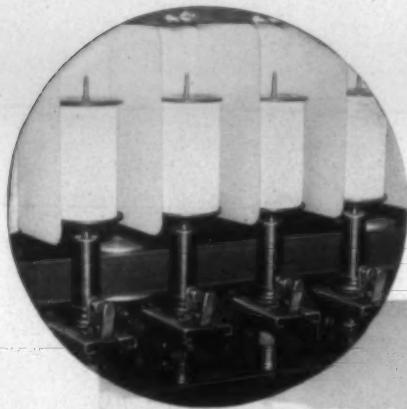
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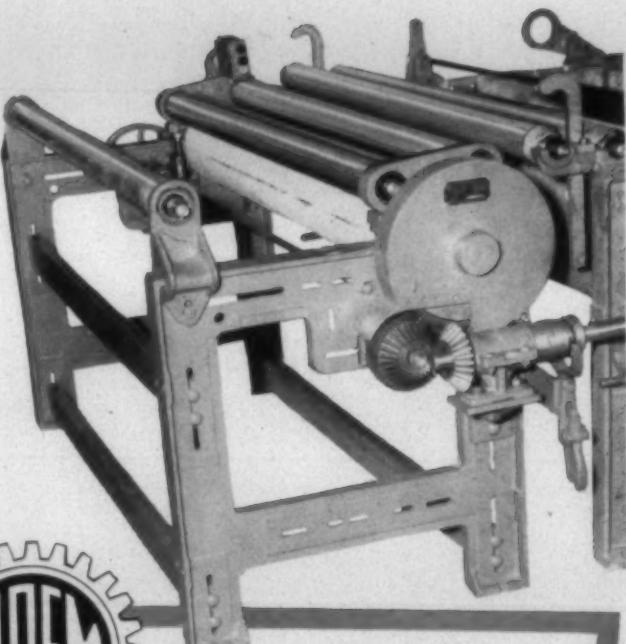
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- ★ Better Fabric Feel and Quality

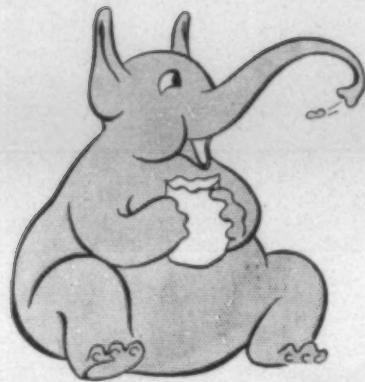


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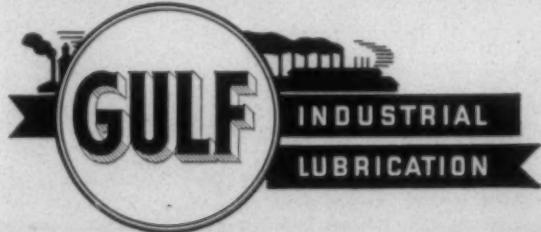
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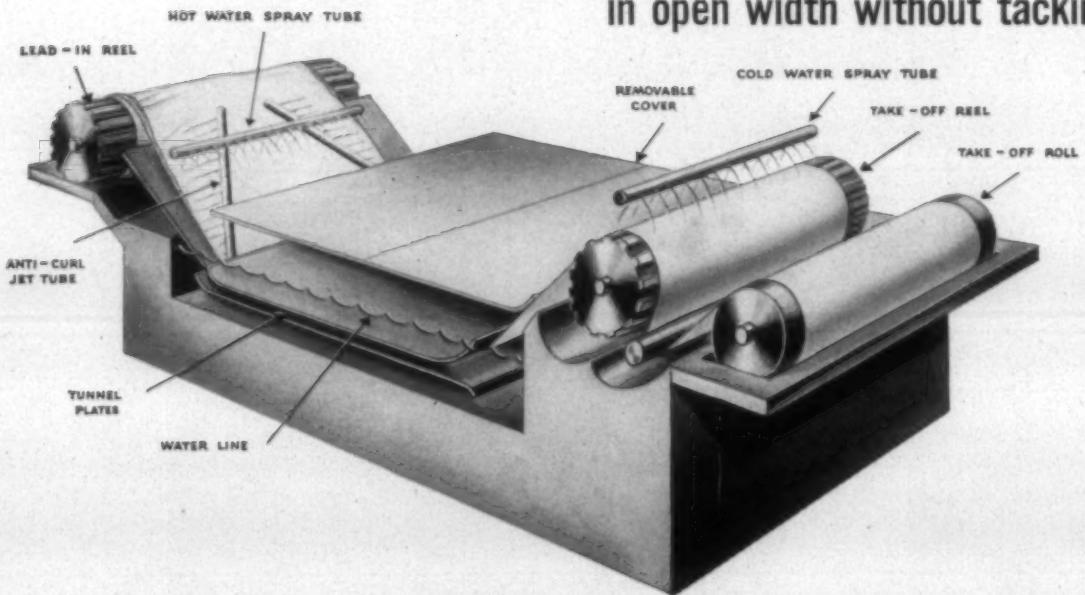
Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y.

APRIL, 1949

New tricot pre-setting machine developed by Avisco

Pre-sets acetate tricot
in open width without tacking



A NEW MACHINE for pre-setting acetate tricot fabrics has been developed by the American Viscose Corporation Textile Research Department. As shown in the illustration, sprays of boiling water are utilized to uncurl the edges of the fabric and to keep them uncurled until the fabric enters the setting unit. This unit consists of two plates set approximately $\frac{1}{8}$ " apart, the width of the plates being the width of the material and the length being approximately 6 ft. The fabric enters the tunnel between the two plates in a flat condition and, owing to the close proximity of the plates to each other, is prevented from further movement as regards curling. The two stainless steel plates are immersed under boiling water so that the fabric is set by passing through a boiling water solution. The time can be varied between 3 and 24 seconds. After emerging from the plates, the fabric is sprayed with cold water to complete the setting operation, at which time the fabric no longer shows any tendency to curl and can be dyed

in a flat condition without tacking.

The tricot pre-setting machine is expected to increase the percentage of first-quality goods. It eliminates the necessity of tacking and the consequent untacking. It prevents "crow's feet" and crease marks and the goods emerge from the dryer with a straight course line. Because of the lack of curled edges, the fabric can be dried quite close to the edge and thus save material. Other advantages are improved hand and appearance, control of stability, and ease of handling.

The machine will be manufactured by Van Vlaanderen Machinery Company, Paterson, N. J. Its capacity will be 2500 yards of acetate rayon fabric per hour. Made of stainless steel, it will be useful with a wide variety of textile chemicals. Its 15 x 16 foot size will accommodate full width tricot goods. Estimates indicate it should pay for itself in a short time in dye houses finishing big lots of tricot fabrics.

American Viscose Corporation has patents pending on this development.

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To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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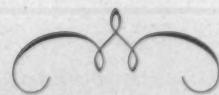
Mills at Spindale, North Carolina

Sales Office: 450 Seventh Avenue

New York, N. Y.

Piedmont Manufacturing Company

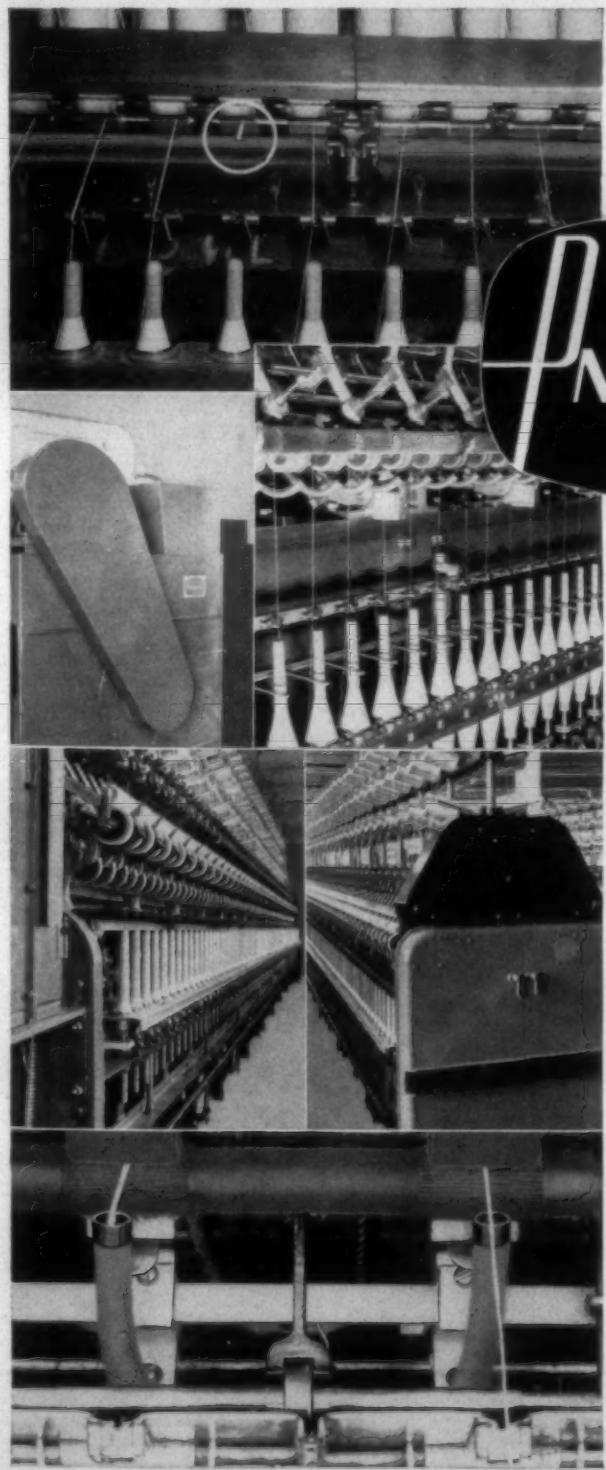
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New York, N. Y.



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another
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more and
better yarn
for less

the results:

• Lower Manufacturing Costs ...

Less spinning, cleaning and sweeping labor
Improved and controlled waste salvage
Less overhead per production unit
Reduced spinner training time

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No spinning doublings
Less slubs, gouts and end piecings
Improved end piecings
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• Increased Production ...

Higher frame speeds
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Chose FOSTER MODEL 102 WINDERS



After one of the most dramatic modernization programs in textile history, the Bachmann-Uxbridge Worsted Corp. of Uxbridge, Mass. is today running full time, whereas many other woolen mills are shut down or on sharply curtailed schedules.

It is significant that this mill, like many others, included Foster Model 102 Winders in its new equipment. The Model 102 features, which undoubtedly influenced its decision, are as follows:—

1. **FLEXIBILITY** — Will handle any count or type of staple yarn with same traverse mechanism — any angle of wind from 9° to 18° — any ordinary taper. Can be equipped to produce any type of package.
2. **INCREASED PRODUCTION** — Twice that of obsolete models. Winding speeds up to 700 y.p.m.
3. **ECONOMY** — Operating cost 1/3 less than that of obsolete models. Repair costs as low as \$3.50 per year per 100 spindle machine.
4. **QUALITY PRODUCT** — Automatic inspection. Conditioned yarn, if desired. No ribbon wind. Minimum breakage on soft twist yarns.

Make Foster Model 102 a part of YOUR modernization program. Send for Bulletin A-95.

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FOR YEAR 'ROUND TEMPERATURE and HUMIDITY CONTROL



Unit system or central station system—evaporative cooling or refrigerative cooling—for new, modernizing or expanding plants—for processing natural or synthetic fibres.



The Bahnson Company has specialized for 34 years in the design, engineering, manufacture, installation and service of industrial air conditioning—offering any type of humidification or air conditioning system required for the varied needs of the Textile Industry.



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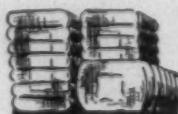
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Victor celebrates its

50th



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... and you share the honors and benefits

In celebrating Victor's Golden Anniversary, we are fully aware that no firm could thrive and prosper for so long without the continued patronage and good will of thousands of customers and friends in the textile industry.

We look forward to our second half-century with the same spirit of enterprise that started the company on its way to success in 1899. Now, as then, Victor's guiding policy is to produce the finest travelers that can be made, and to offer the advisory service of the ablest specialists in traveler selection and use.

There is an important difference, of course. Today, we are richly endowed with the experience of 50 years. We have manufacturing facilities geared to the needs of today and tomorrow. We have engineering and laboratory testing facilities unknown in that early day. And we have a well trained team of sales engineers who can bring you the full benefits of Victor Service in a few hours, in any locality, north or south.

So we invite you to share the honors and the benefits, of our 50 years in business. Look to Victor for leadership in traveler development, in the future, as in the past. Write, wire, or phone for prompt service.



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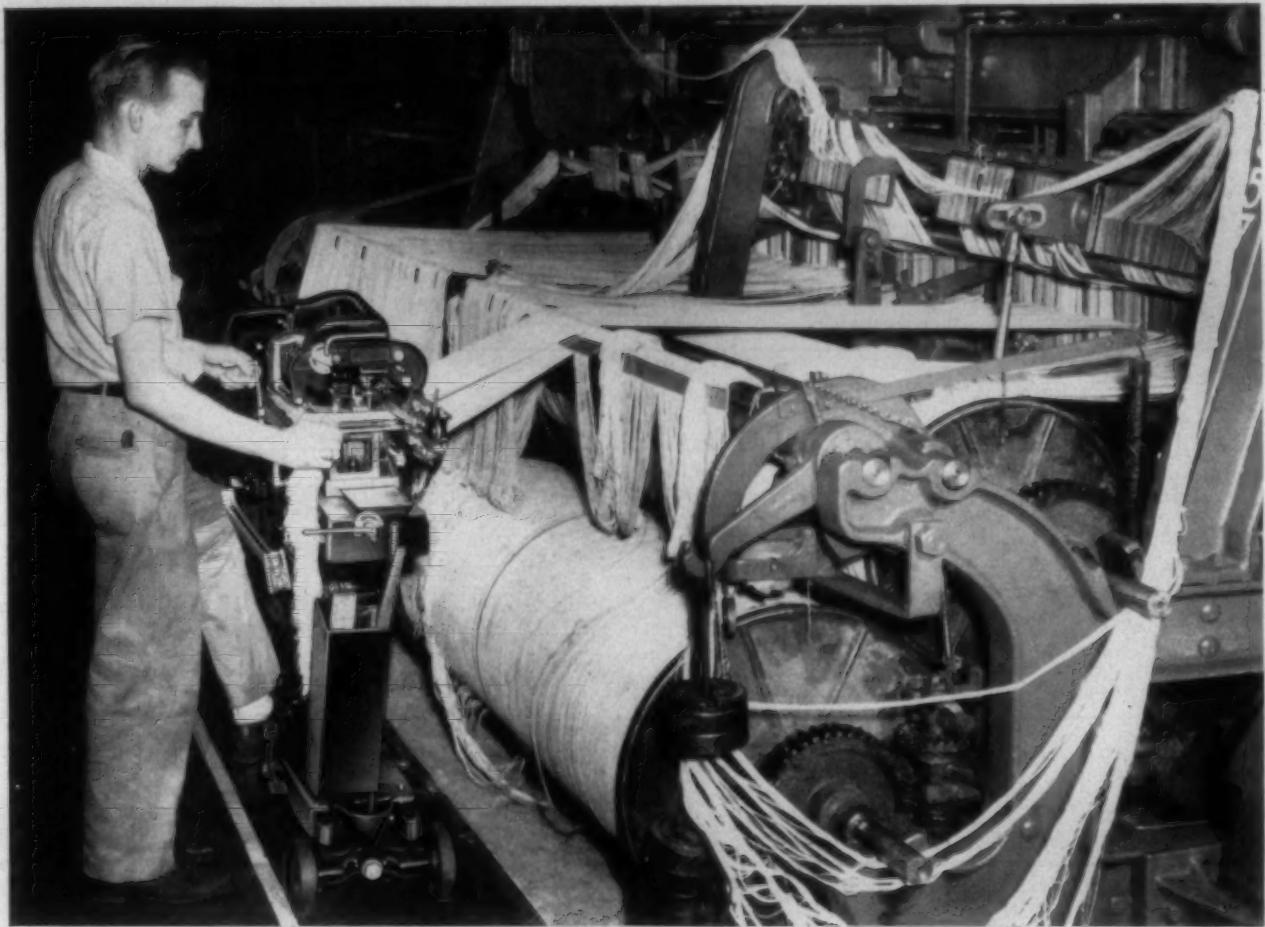


COMBED SHIRTINGS
AND DRESS GOODS



SPINDALE

NORTH CAROLINA



BARBER-COLMAN PORTABLE WARP TYING MACHINE REPLENISHES INSIDE WARP ON AXMINSTER CARPET LOOM IN 1/3 OF FORMER TIME

At the Bigelow-Sanford Carpet Company plant in Amsterdam, N. Y., the warp on the inside beam is tied in, as shown above, with a Barber-Colman Model LC Portable Warp Tying Machine at a considerable saving over the previous manual method. The Barber-Colman machine has proved particularly adaptable to work of this type because of its versatility, ease of operation, speed, accuracy, and reliability. The machine can handle a wide range of counts in various types of warps. It operates directly in back of the loom and is built to fit into narrow loom alleys. Ends are firmly tied in proper sequence, using a tight knot with short tails that will draw easily through the heddles. Users of the machine show very low maintenance expense; service, when necessary, being available promptly from Barber-Colman field offices which are backed by 45 years of experience in producing textile machinery. Ask your Barber-Colman representative for specific recommendations on the use of this machine in your mill.

DATA FROM BIGELOW-SANFORD 12-FOOT AXMINSTER CARPET LOOMS

MACHINE METHOD

Model LC Portable Warp Tying Machine
One Operator

Warp on Inside Beam:
2 beams end to end
1009 ends each beam
9 $\frac{1}{3}$ cotton
Each beam 72" wide — 14 sley

Preparatory and Tying-In Time:
35 minutes each beam
Total Time — 70 minutes

MANUAL METHOD

Two girls and weaver require up to 3 hours
time to re-tie the two above beams.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U.S.A.

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With Sheet Metal Parts of PROVEN QUALITY

Made and Delivered with DEPENDABLE SERVICE

Production profits from beginning to end are yours—if your preparatory machinery is geared for efficient, economical volume production. One of the South's oldest and most experienced sheet metal plants is prepared to help you do just that. Through the years this organization has earned a reputation for top quality products, painstaking workmanship and reliable service.

You will find that this kind of special knowledge and experience applied to your maintenance problems will make an important contribution to continuous, profitable production.



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FABRICS

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Cotton and Rayon Piece Goods

Greenville, South Carolina

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Fabrics Made Of

Combed Cotton

Spun Rayon

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New! Instant-starting

slimline fixtures

with wiring channels as well as reflectors
available in Vitreous Porcelain Enamel

● Take a look at Wheeler Slimline Fixtures and you'll see the extra advantages that assure lowest cost in the long run. In addition to the benefits of instant-starting, you get the advantages of Wheeler "Skilled Lighting" design and construction . . . stable reflecting characteristics, easy cleaning, lower maintenance and extra-long service life. These inherent Wheeler features are the results of nearly 70 years of making quality lighting equipment.

Typical of Wheeler engineering thoroughness in Slimline Units is the exclusive auxiliary lamp support at center of fixture to prevent vibration of the 8-foot lamps. Fixture channel is in one sturdy piece . . . available in either baked enamel or porcelain enamel finish. Reflectors are in vitreous porcelain enamel finish only.

Two types of Slimline fixtures represent another Wheeler "Skilled Lighting" refinement. Each is designed for specific applications. Get all the facts on these latest products of Wheeler "Skilled Lighting". Write to **Wheeler Reflector Company, 275 Congress St., Boston 10, Massachusetts.**

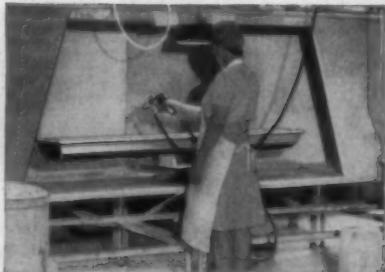
See all our new 1949 units at Booth Nos. 63 and 64 at the International Lighting Exposition.



Industrial Slimline Unit
End view of Industrial Type unit showing flat top. These units are designed for general industrial use under normal atmospheric conditions.



Textile Slimline Unit
End view of Textile Type unit showing peaked top especially designed to eliminate frequent cleanings and danger of moisture damage.



NEARLY 70 YEARS OF
"Skilled Lighting" Tradition

Here is one of Wheeler's many veteran workers . . . skillfully applying Wheeler's famous wear-resistant vitreous porcelain enamel surface to the inside of a reflector. Through her faithful adherence to high quality standards, she helps to maintain the distinguished Wheeler tradition of top value in modern industrial lighting.

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Lower Operating Costs!**

**USE
DAYTON
THOROBRED
LOOM SUPPLIES**

**SCIENTIFICALLY DESIGNED
to take a terrific Beating!**

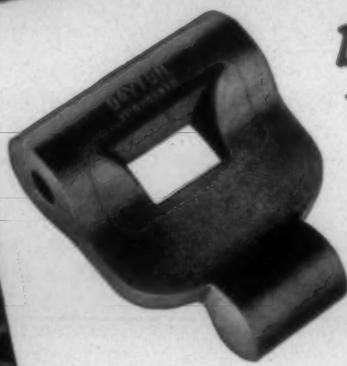
Long-lasting Dayton Thorobreds keep your high-speed looms running at top production capacity. Built of live, resilient rubber and specially treated and impregnated fabric, these Thorobreds are scientifically designed to take a terrific beating. They save you the expense of constantly replacing worn-out parts. Made by textile specialists, in a plant in the heart of the textile industry (at Waynesville, North Carolina), these loom supplies are manufactured by laboratory-controlled methods and are field tested in nearby mills and textile engineering schools. Sold by Dayton Jobbers, Thorobreds help you produce finer textiles at lower operating costs.

THE DAYTON RUBBER COMPANY, Textile Division
Woodside Bldg., Greenville, South Carolina

REVERSIBLE

Drop Box Pickers

This Reversible Drop Box Picker lasts longer and gives better shuttle contact. Made in a one-piece unit, it has three degrees of hardness. Very hard at spindle hole—won't wear egg-shaped—requires no lubrication. Soft around picker stick hole to absorb terrific impacts. Very soft at shuttle contact to assure perfect throws and eliminate shuttle point loosening. Non-reversible type has same construction.

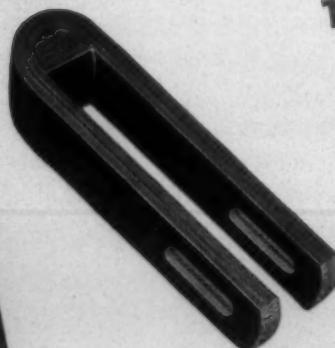


THOROBRED Loop Pickers



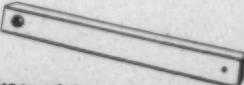
Built of extra tough fabric and resilient rubber molded together in a super strong unit. Stays put on stick. Easy to apply. Absolutely uniform. Assures a perfect shuttle throw. Eliminates shuttle bounce. Has twice the life of ordinary loop pickers.

THOROBRED Lug Straps



Built-in cushion protects cam points and picker stick. One-piece construction. No rivets. Never needs adjusting. Has proper "give" and ability to "come back" immediately. Easy to apply. Not affected by humidity. Gives trouble-free service and outlasts three ordinary lug straps.

MORE THOROBRED WEAVE ROOM SUPPLIES



Sweepsticks—Have just the right resiliency. Not affected by temperature, moisture or oil. Will not "grow".



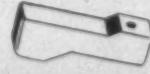
Hold-up Straps—Built of numerous plies of strong, squarely-woven fabric, bonded together with slightly flexible, yet long-wearing, rubber composition.



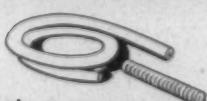
Take-up Roll Coverings—Have a high coefficient of friction and excellent holding quality. They are oil-resistant and long wearing.



Frog and Loom Bumpers—Made of specialized rubber to give months of trouble-free service. Sizes to fit all looms.



Reversible Picker Bumpers—Have maximum shock resistance and minimum distortion during their long life.



Temple Rolls—Made from Dayco tubing. Are impervious to oils and chemicals. Resistant to abrasion, and can be used with all types of fabric.

DAYTON ALSO MAKES:

Doll or Tail Pickers
Bobbin Stripper Blades
Jute Loom Pickers
Spindle Rod Bumpers
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Dayton Rubber

WHAT OTHERS ARE SAYING

Japan's Textile Revival

THE potential rivalry of Japan in the cotton goods trade has given concern in this country to manufacturers and merchants in the piece goods business. Japan may receive an increasing supply of raw cotton from this country, and return it in goods at prices which could threaten the domestic industry. This revival of an old competitor in the cotton trade is due to successful efforts of the United States civilian rehabilitation program, supervised by our military government in Japan.

If Japan could sell more finished goods in British as well as American markets, its exports would be so divided that the competition would hardly be serious. Currency regulations set up by Great Britain make such marketing there difficult, however. Dr. Claudius T. Murchison of the Cotton-Textile Institute has reported that with 2,500,000 spindles in operation, Japan can export annually 700,000,000 square yards of cotton piece goods. In the late 1930s competition from that source became so serious in this country that the Japanese signed an agreement with merchants and manufacturers here to limit exports to America to 200,000,000 yards a year.

It was just a decade ago that Japan began drastic reduction of its imports of raw cotton from the United States. In the year before the attack on Pearl Harbor the major supply of Japan's raw cotton came from British India, Brazil and Peru. It is now reasonable to expect, however, that if the United States remains Japan's principal supplier of cotton, we may also offer the most profitable market for the finished products of Japan's mills.—*New York Sun*.

A Bowles Novelty

THE suggestion of Connecticut's Gov. Chester Bowles that New England manufacturers undertake to meet their competition by raising a half-million dollars to organize Southern labor, has the sole merit of novelty.

Mr. Bowles is not dealing with reality when he suggests that wage differentials, such as there are, have governed the movement of industry. Climate,

proximity to markets, sources of materials supply, taxes and other matters are important factors along with labor costs and efficiency in the planning of manufacturers.

Governor Bowles' idea probably won't please anybody much except himself. The Southern labor organizers would hardly compromise themselves with their own unions by taking the New England capitalists' money. One of their chief spokesmen has said so. What seems even more certain is that the New England enterprisers won't put up the money because if the lot of the now well-situated factory worker in the South is further improved, the New England working population will tend to migrate along with the factories. The Connecticut governor is at another disadvantage in that many of the industrialists he is advising own cotton mills or other factories both in New England and the South.

New England's politicians might be wiser to drop the bally-hoo about the South's theft of its industries. It is not their place to complain if Southern enterprises are now in position to share in the profits of the tariff-protected industries by which New England has long prospered.

Anyway, New England is hardly as bad off as Governor Bowles seems to think. Looking over the Massachusetts-Connecticut situation recently, a writer on economic affairs found that more new factories were opening in that area than were leaving. —*New Orleans (La.) Times-Picayune*.

Leaner Textile Times

THERE can be little surprise among informed citizens over the public statement that textile industry profits are substantially lower than a year ago. For it is a matter of general knowledge that textile plant operations have dropped substantially from the high levels of the war and immediately post-war times. We are steadily getting back to more nearly normal conditions of supply and demand with respect to textile products, just as in other lines, and that means, obviously, that profits will decline from "boom" levels.

As Frank T. Watkins, attorney for the cotton manufacturers, told a group in Columbia, the textile industry in

this state earned large profits in recent years, but this was due to a "vacuum in the supply of goods, compared with the demand which had been whipped up by government purchases and the export trade." Textile industrial management, he indicates, has saved these profits prudently for the lean years.

There can be no question that the textile industry in this state, as well as elsewhere, is entering a more difficult period. And that is a prospect which the legislature needs to consider from several standpoints. It means for one thing that we are going to have a lower revenue from the income taxes on our industries; and it ought also to mean that the legislature should beware of measures that would impose additional and unwarranted burdens upon these industries when they are fighting against increasing odds to maintain a sound economic position.—*Greenville (S.C.) News*.

Ominous Cotton Facts

DOMESTIC consumption of cotton fell in January to 674,000 bales. This was 186,000 bales less than in January of last year. If the decrease runs evenly throughout the rest of 1949, consumption this year will have fallen by more than 2,000,000 bales.

Meanwhile, as a heavy percentage of the 1948 crop is going into the hands of the government, farmers are planning their 1949 plantings with no acreage limitations upon them. The lure of approximate parity price, to be had from the government, is strong, and there is no telling what the 1949 crop will be.

And, also meanwhile, Congress is being asked to erect great storage warehouses for the wheat, corn and cotton which is being dumped on the government, and senators and representatives from the cotton states are bickering as to how acreage limitations shall be computed for the 1950 crop.

It is safe to predict that by Jan. 1, 1950, Uncle Sam will be possessor of at least 5,000,000 bales of cotton which nobody will buy at the price he paid. He will have the small satisfaction of realizing that he has helped sabotage a great industry by his benevolent enterprise of destroying a free market for it.—*Atlanta (Ga.) Journal*.



DOUBLE PURPOSE
rainwear and outerwear
in general can now be
given DOUBLE PROTECTION — water repellency
plus water borne stain
resistance — with Cyanamid's PARAMUL* 115
semi-durable water
repellent. Investigate its
ease of application and
other desirable features.



THAT SOFT TEX-
TURE so essential to
fabric sales appeal demands fine finishing oils.
Rely on Cyanamid
SULFONATED OILS to
achieve a smooth, soft
hand. Our large scale
production methods as-
sure uniform high quality.



DECERESOL* OT LEVELS DYEING—AND DYEING COSTS

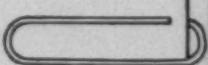
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DECERESOL Ot is the fastest wetting, penetrating and dispersing agent available. It has applications in all branches of the textile industry and for all fibres and fabrics, including cotton, wool, silk, linen, rayon and the newer synthetic fibres. It is supplied in liquid form, ready for instant addition to the wet processing bath, without preliminary make-up. As with all Cyanamid textile specialities — penetrants, softeners, finishes, sizing com-

pounds, PARAMUL* Water Repellents and others —our laboratory facilities are available to assist you in its application.

Write for our booklet, "DECERESOL Wetting Agents for Textiles," which lists many ways in which these products can effect savings.

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MEN'S WEAR DEPARTMENT—summer suits, sport coats, slacks, robes.

TEEN AGE DEPARTMENT—dresses, slacks, sandals.

WOMEN'S SPORTSWEAR DEPARTMENT—sun suits, pedal pushers, play suits, shorts, beach robes, beach bags, jackets, play dresses, sandals.

MEN'S SPORTSWEAR DEPARTMENT—slacks, sport shirts, fishing jackets, shorts, bathing trunks, sailing togs.

CHILDREN'S DEPARTMENT—playsuits, sun suits, street wear.

HOME FURNISHING DEPARTMENT—drapes, bedspreads, slip covers, cushion covers, place mats, shopping bags.

PIECE GOODS DEPARTMENT—plain shades and multicolored stripes.

MEN'S WORKCLOTHES DEPARTMENT—dungarees, overalls.

CHILDREN'S DEPARTMENT—playsuits, overalls.

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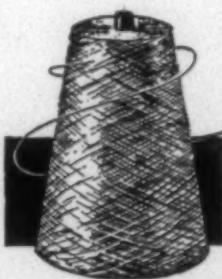
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14's to 40's
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Manufacturers of

QUALITY
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WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Truman cockiness, arising suddenly in unexpected election victory, is dwindling fast. Refusal of States' Righters to hurry to the bandwagon, and the swat given to civil rights proposals, has set the Truman forces on a new tangent to restore party harmony and win back Southerners in the House and Senate. Unless they succeed Truman faces painful defeats in the remainder of this Congress.

Truman forces are getting set for defeats on campaign promises in both House and Senate. They will jettison some proposals to try to save others. Tax increases and price controls will be dropped to try to save labor law repeal, broader social security and civil rights.

Administration forces moved to bring up Taft-Hartley repeal first in the House, believing affirmative action more certain. Sudden hardening in the House indicates a new law almost as tight and drastic as the original Taft-Hartley bill may be forced through to passage.

Polls of both House and Senate by the C. I. O. and A. F. of L. revealed majorities against repeal of the law. Both groups hurriedly called conferences of their leaders over the country to map strategy to stave off defeat. They threaten reprisals in the 1950 election.

Truman leaders are trying to drive a wedge between Republicans and Southerners by promising to drop the more obnoxious civil rights proposals. Southerners expect Truman to try to make up the difference in executive orders abolishing segregation in the armed services, and in all branches of the Federal Government.

A shift in position on national health insurance is being made by the Administration. A "voluntary plan" is being put forward, under which paid subscribers would get cards entitling them to federal medical and hospital care.

While the Administration closes its eyes to recession, index figures of the board show a decline since Nov. 2 in every sector except automobiles. Unemployment stands at about 3,400,000, and the number of part-time workers is growing at a faster rate. No one expects depression, however.

The Council of Economic Advisers, which started as a study and consulting group, has merged as the top level in government economic planning. At Truman's request, the council is now drafting new economic control bills to go to Congress. Chairman Nourse refused to go along; he resigned.

WATCHING WASHINGTON

Spreading business and industrial recession is causing most concern in the Federal Reserve Board. While Truman aides talk of more inflation controls, board members talk of easier credit, reduced bank reserves, and more liberal bank lending.

Senator Pepper is sounding alarms to C. I. O. and A. F. of L. to help him when he comes up for re-election in Florida in 1950. Rep. Smathers of Miami expects to oppose him. Pepper admits the outlook is dark and dubious.

C. I. O. is moving for broader federal industrial safety laws which will in effect supplant similar state laws. Such legislation will be urged on Congress soon, and labor committees will hold hearings later this year on the proposals.

Senate leaders are determined to avoid another filibuster in this session. They agree the Southerners cannot be exhausted, and fear another alliance of them with Republicans will hopelessly wreck all of the Truman domestic program. They agree the first filibuster stopped Truman cold in carrying out campaign promises.

Ultimate outcome of minimum wage change likely will be a minimum of about 65 cents. A sliding scale pegged to the cost of living may be inserted. Only minor extensions in coverage are likely.

Republican hopes are rising to recapture the Senate in 1950. Truman's whip cracking and the party split is reaching deep into some Northern states. They will concentrate on winning in seven key states from New York to California.

Congress is drawing tighter on public spending. Public works and other Truman spending proposals are being cut sharply. Health insurance and broader social security have little chance of passage.

Easing of rent controls and providing for "home rule" revealed trend in Congress to resist federal invasion in business. It definitely checked the move to make big government bigger, and gave a body blow to aim of the unions to increase government restrictions in industry.

Increase in wildcat strikes in industrial and plant bottlenecks is seriously weakening union demands in labor legislation. Union leaders deny a conspiracy to slow down production, but Congress may tighten restrictions on outlaw strikes in labor law changes.

Coal miners are being warned from Lewis' office to save personal funds for a prolonged strike this Summer. Lewis expects mine owners to resist his demands as excessive. He has a big war chest for a long, drawn-out strike.

Tax collections on March 15 were much less than expected. A budget deficit is building up unless sharp cuts are made in Truman's spending proposals. Unemployment is beginning to show up in withholding taxes.



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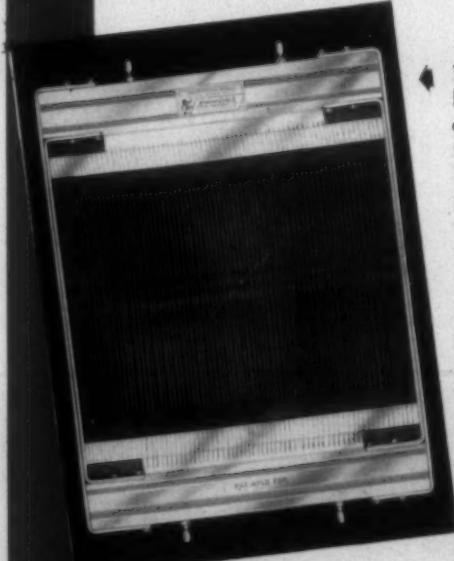
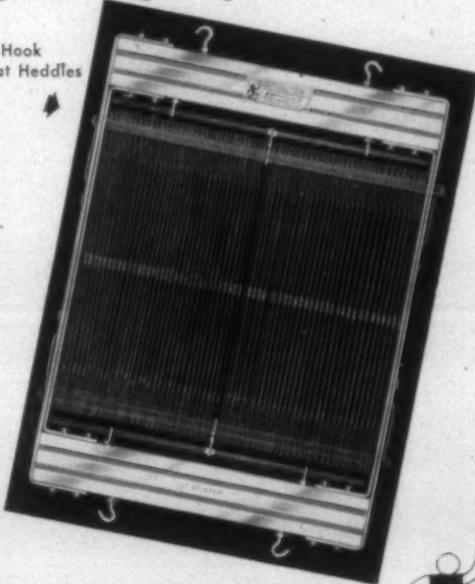
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BEN C. THOMAS Field Representative
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Senator Frank P. Graham

As president of the University of North Carolina, Frank P. Graham was in a very sheltered position because many of the alumni were imbued with an extreme sense of loyalty to the university and felt obligated to resent criticism of anyone or anything connected with the institution.

Having accepted an appointment as United States senator, he has projected himself into the field of politics and his entire record, his many statements and his affiliations with ultra-liberal groups, will eventually be laid bare and the voters of North Carolina will look, listen and pass judgment.

His thinking has never, in our opinion, been that of the people of North Carolina and there are very many things which must be explained if he expects to win the nomination, for senator, in the Democratic primary which will be underway at this time next year.

Under date of April 27, 1935, a letter, which carried his name as a member of the advisory committee, was sent to many thousands of young people in the United States urging them to attend the Summer School of Moscow University and saying among other things:

Its student body has one common characteristic—a sincere interest in studying the various trends and aspects of the new life in the Soviet Union.

In 1936, however, Frank Graham signed a protest against allowing American athletes to participate in the Olympic games in Germany upon the ground that they would come in contact with some Germans and might learn something about Nazism.

As president of the University of North Carolina he could avoid explaining the inconsistencies of the two positions but voters of North Carolina will form their own opinions and vote accordingly.

In 1934, when labor union "flying squadrons" were active,

Alton Lawrence, a former student of the university, met one of these groups at Lexington, N. C., and induced its members to attack a hosiery mill at High Point, drive the employees from their machines and damage the building.

When Alton Lawrence, who had incited the riot, was arrested Frank Graham telegraphed from Pawley's Island, S. C., that he would be pleased to go bond for him.

Unfortunately Alton Lawrence was charged only with trespass, and as he was able to prove that he did not actually enter the mill, he was acquitted. Persons who witnessed the attack upon the hosiery mill say that Alton Lawrence remained just outside the mill property while enjoying the attack which he had inspired.

Frank Graham asserts, and we are willing to take his word, that he never joined the Communist Party.

He did admit an affiliation with the "International Fellowship of Reconciliation," which upon its letterhead declared that its members should—

Aim at the replacement of capitalism by a system of collective ownership and study the experiment of Soviet Russia in relation to class struggle.

The above are only a few of the statements and affiliations which Frank Graham must answer to during the 1950 campaign because the voters will scan his record very closely.

He was not appointed United States senator in order to remove him from the position of president of the University of North Carolina.

We are informed, by reliable persons, that, just prior to the appointment, Gov. W. Kerr Scott became angered because the 1949 Legislature would not do his bidding and declared, in a group of his close advisers, "I am going to be forced to form an organization composed of farmers, labor unions, liberals and Negroes, if I am to put over my program."

It is our considered opinion that the appointment of Frank P. Graham, as United States senator, was the first move in an effort to form such a political machine or organization.

It is our opinion, however, that the effort will be futile because North Carolina farmers will never work in harness with professional labor organizers nor will either they or textile mill employees who are members of unions, agree to accept social equality with Negroes.

In a two-column editorial on April 14, the *Raleigh News & Observer* made a vicious attack upon the North Carolina Legislature and near the end of that editorial made the following statement:

Finally, to cap the climax they made their attitude toward North Carolina, its people and its purposes crystal clear by giving first favor in the selection of university trustees to David Clark and at the same time rejecting Frank Graham as a trustee. Everybody in North Carolina knows that Dave Clark was not only chief of the Dixiecrats whose purpose was to stir race hatred in North Carolina in order to serve reactionary Republican politicians. They also know that he has been the chief foe of every progressive measure, including the abolition of child labor. They know that he hated Roosevelt and hates every other man who is more interested in men than money. The same North Carolinians know that today there is no man who knows more about the University of North Carolina and could contribute more to its future than Senator Graham. Yet this Legislature turned down Graham and gave Clark the longest term it could possibly give him.

We have never known an editor of the *News & Observer* who had much regard for truth and this editorial ran true to form.

David Clark was one of the leaders of the so-called Dixie-

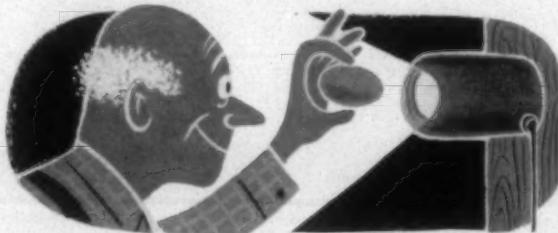
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- April 22—PIEDMONT SALES CONFERENCE, Charlotte, N. C.
- April 23—SOUTHEASTERN SECTION, A. A. T. C. C., Ralston Hotel, Columbus, Ga.
- April 23—EASTERN CAROLINA DIVISION, S. T. A., North Carolina State College School of Textiles, Raleigh.
- April 25-28—Fourth SOUTHERN MACHINERY AND METALS EXPOSITION, Atlanta (Ga.) Municipal Auditorium.
- April 30—NORTHERN NORTH CAROLINA-VIRGINIA DIVISION, S. T. A., Leaksville, N. C.
- May 4-6—Annual convention, COTTON MANUFACTURERS ASSOCIATION OF GEORGIA, Sheraton Plaza and Princess Isabella Hotels, Daytona Beach, Fla.
- May 4-6—Annual NORTH CAROLINA STATEWIDE INDUSTRIAL SAFETY CONFERENCE, Robert E. Lee Hotel, Winston-Salem, N. C.
- May 6-7—Annual convention, PHI PSI FRATERNITY, Biltmore Hotel, Atlanta, Ga.
- May 9-13—Fourth NATIONAL TEXTILE SEMINAR, Shawnee Inn, Shawnee-on-the-Delaware, Pa.
- May 9-14—NATIONAL COTTON WEEK (sponsored by Cotton-Textile Institute and National Cotton Council).
- May 10-13—18th NATIONAL PACKAGING EXPOSITION, Atlantic City (N. J.) Auditorium.
- May 11—General meeting, NATIONAL ASSOCIATION OF FINISHERS OF TEXTILE FABRICS, Statler Hotel, New York, N. Y.
- May 12-14—Annual outing, CAROLINA YARN ASSOCIATION, Carolina Inn, Pinehurst, N. C.
- May 19-21—Annual convention, COTTON MANUFACTURERS ASSOCIATION OF SOUTH CAROLINA, Grove Park Inn, Asheville, N. C.
- May 26-28—Annual convention, TUFTED TEXTILE MANUFACTURERS ASSOCIATION, Atlanta-Biltmore Hotel, Atlanta, Ga.
- May 30-June 1—Sixth annual SPINNER-BREEDER CONFERENCE (sponsored by Delta Council and Southern Combed Yarn Spinners Association), Charlotte, N. C.
- June 6-10—TEXTILE WET PROCESSING EQUIPMENT & SUPPLIES EXPOSITION, 71st Regiment Armory, New York, N. Y.
- June 16-18—Annual convention, SOUTHERN TEXTILE ASSOCIATION, Mayview Manor, Blowing Rock, N. C.
- June 24-26—PIEDMONT SECTION, A. A. T. C. C., Ocean Forest Hotel, Myrtle Beach, S. C.
- June 27-July 1—Annual meeting, AMERICAN SOCIETY FOR TESTING MATERIALS, Atlantic City, N. J.
- Sept. 26-28—NATIONAL ELECTRONICS CONFERENCE, Edgewater Beach Hotel, Chicago, Ill.
- Oct. 13-14—43rd annual meeting, NORTH CAROLINA COTTON MANUFACTURERS ASSOCIATION, Carolina Hotel, Pinehurst, N. C.
- Oct. 13-16—National convention, AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS, Chalfonte-Haddon Hall, Atlantic City, N. J.
- Oct. 27-28—Annual meeting, CARDED YARN ASSOCIATION, Sheraton-Bon Air Hotel, Augusta, Ga.
- Nov. 3—Annual meeting, COTTON-TEXTILE INSTITUTE, New York City.
- Nov. 5—PIEDMONT SECTION, A. A. T. C. C., Charlotte Hotel, Charlotte, N. C.
- May 8-12, 1950—AMERICAN TEXTILE MACHINERY EXHIBITION (and Allied Industries), Atlantic City (N. J.) Auditorium, sponsored by National Association of Textile Machinery Manufacturers.
- Oct. 2-7, 1950—16th SOUTHERN TEXTILE EXPOSITION, Textile Hall, Greenville, S. C.
- Oct. 19-21, 1950—National convention, AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS, Statler Hotel, Boston, Mass.

EDITORIALS

crat movement but he did nothing to create racial hatred or serve the Republicans.

He never, at any time, opposed the abolition of child labor or the enactment of sound progressive measures.

The *Greensboro Daily News* said:

As Umstead is the acknowledged leader of Governor Scott's forces in the House he wasn't in very good mood to take a cussing because the assembly voted against making Senator Graham a trustee and crowned Dave Clark lord of them all. The Clark primacy was an accident. He came out on top when the hatful of names was given a violent shaking. The Charlotte insurgent has that habit.

When the joint committee of the Senate and House met on the night of April 12 to select 30 trustees for the University of North Carolina, there were 53 members present.

David Clark, who has been a member of the board of trustees for a number of years, received 49 votes for re-election for another term of eight years.

Frank Daniels, business manager of the *News & Observer*, managed to get 31 votes and being at the bottom of the list got a two-year term.

Senator Frank P. Graham received only 29 votes, which was not enough to elect him.

The editor of this publication had absolutely nothing to do with the failure of Frank Graham to be elected a member of the board of trustees.

Never, at any time, did he discuss, with any member of the Legislature, the question of the election of Frank Graham as a trustee or suggest that he not be elected.

It was, of course, very humiliating to Senator Graham to receive less than enough votes to be elected to the board of trustees, but the members of the Senate and House committees made up their own minds and voted accordingly.

We are much gratified by the fact that 49 of the 53 committee members, coming as they did from all sections of North Carolina, had an opinion of David Clark which differed from that of the Raleigh *News & Observer* and felt that he was worthy of their votes.

Our personal relations with Frank Graham have always been pleasant and we bear him no personal animosity.

We have felt that the thinking and the philosophies of the head of the greatest educational institution in North Carolina should be in step with that of most of the people of the state and we know that only a small portion of our people agree with Frank Graham.

We feel that it is fortunate for the youth of North Carolina that the administration of Frank Graham has ended and we hope that his successor will be a man who is more interested in the education of our youth than in trying to lead them into paths which have been worn thin by the followers of either Stalin or Hitler.

Government Printing

Last year the United States Superintendents of Documents issued, free of charge, 61,979,102 publications for government agencies. This did not include the millions of documents issued by the agencies themselves. We cannot even surmise how many millions were issued.

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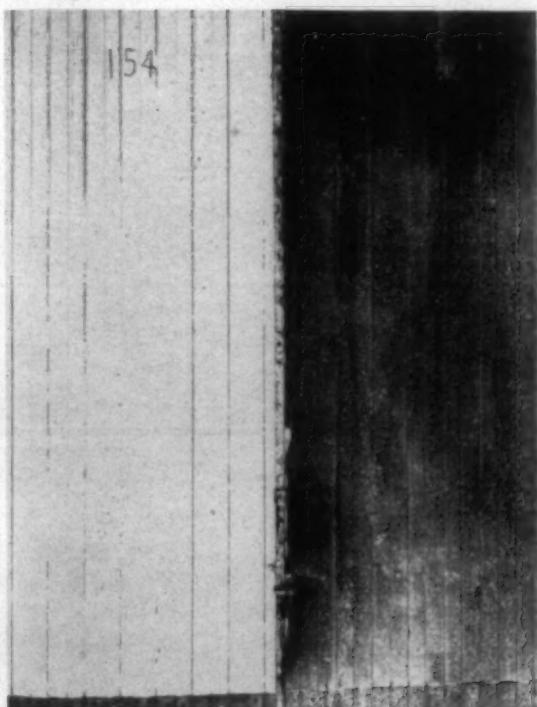
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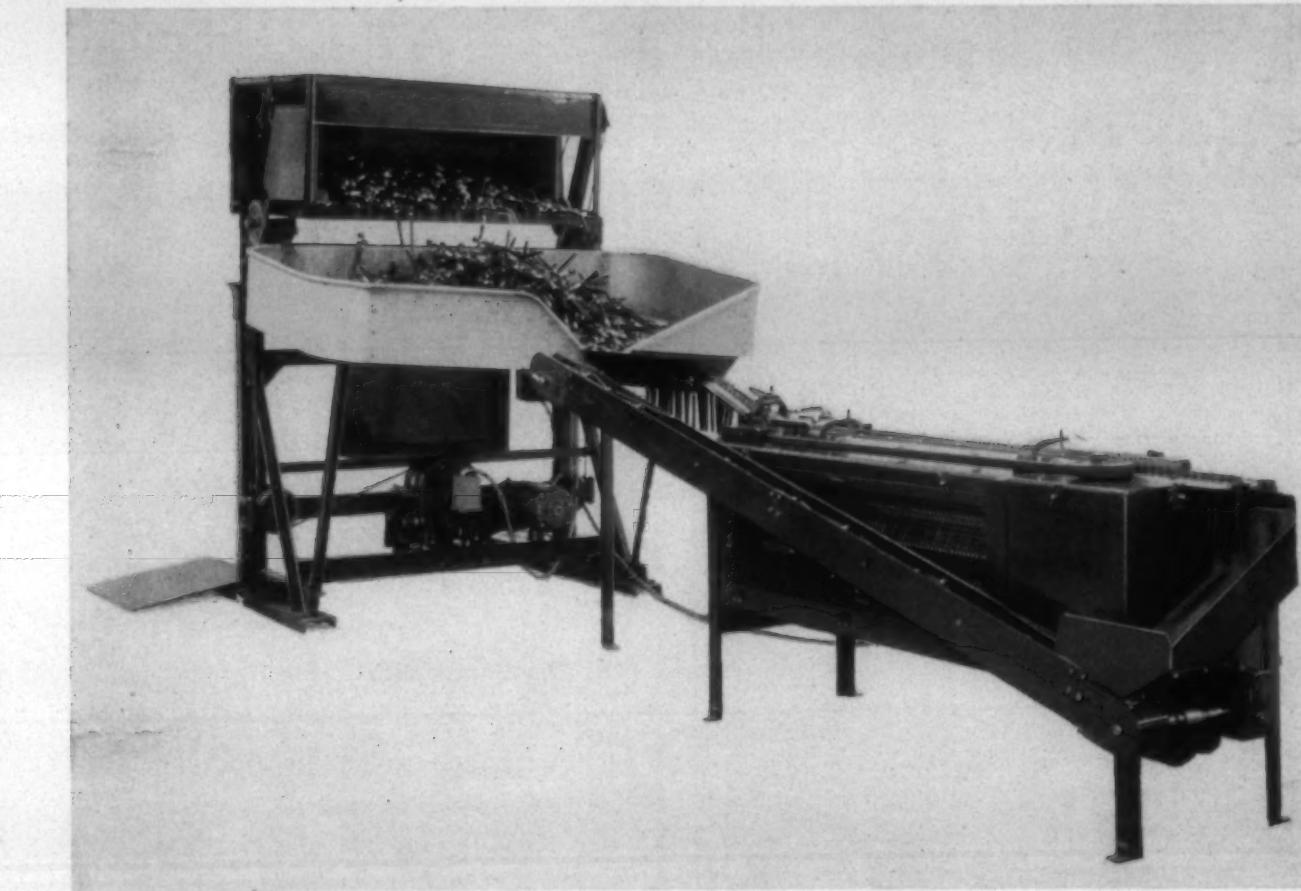
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textile bulletin



VOL. 75

APRIL, 1949

NO. 4

The Annual A.C.M.A. Convention

THOSE mill executives named to direct the affairs of the American Cotton Manufacturers Association during the group's annual convention March 31-April 2 at Palm Beach, Fla., now have the complicated task of co-operating with officials of the Cotton-Textile Institute in working out a consolidation of the two groups. This move, a topic of considerable discussion for many months, was agreed upon by committee representatives from both organizations, who met and voted unanimously to recommend that the two associations be made into one which would represent the cotton textile industry of the nation.

Ellison S. McKissick, president of Alice Mfg. Co. at Easley, S. C., was elected chairman of the A. C. M. A. board of government; he held the position of vice-president last year, and succeeds Harvey W. Moore, vice-president and treasurer of Brown Mfg. Co. at Concord, N. C. George P. Swift of Muscogee Mfg. Co. at Columbus, Ga., was named first vice-president, and William H. Ruffin of Erwin Cotton Mills Co., Durham, N. C., was elected to the second vice-presidency.

Named to the board of government for three-year terms were: Wyllis H. Taylor, Newnan (Ga.) Cotton Mills; Earle Stall, Florence Mills, Greenville, S. C.; J. Craig Smith, Avondale Mills, Sylacauga, Ala.; W. A. L. Sibley, Monarch Mills, Union, S. C.; and A. K. Winget, Efird Mfg. Co., Albemarle, N. C. For a board term expiring in 1951; R. Dave Hall of Stowe Thread Co., Belmont, N. C., was named to replace Mr. Ruffin, who automatically becomes a member of the board because of his election to the second vice-presidency. The executive committee of the association for 1949-50, in addition to A. C. M. A. officers, includes Charles C. Hertwig, Bibb Mfg. Co., Macon, Ga., Mr. Moore, Mr. Sibley and Mr. Smith. Executive committee alternates are Ernest Rees, Elk Cotton Mills, Fayetteville, Tenn.; R. E. Henry, Victor-Monaghan Co., Greenville, S. C.; Joe L. Lanier, West Point (Ga.) Mfg. Co.; and Mr. Winget.

No action was taken relative to naming a president of the association, the position held by the late William P. Jacobs. F. Sadler Love was re-elected secretary, and also was given the post of treasurer, which had been held by Dr. Jacobs. Since joining the association staff early in 1946 Mr. Love has served as secretary, and shortly after the death of Dr. Jacobs last July, was appointed executive assistant.

The convention got underway Thursday afternoon, March 31, with addresses by M. Earl Heard, vice-president in charge of research for West Point (Ga.) Mfg. Co. and chairman of the American Association's research committee, and Dr. George D. Heaton, pastor of the Myers Park Baptist Church, Charlotte, N. C., a widely-known authority

on labor-management relations. Mr. Moore's report was read by Mr. McKissick because of the former's hospitalization following a serious illness. (The chairman's remarks, as well as those of Mr. Heard, are published in this issue.)

The inability of Vice-President Alben W. Barkley to leave Washington because of the pressure of official business prevented his appearance as the featured speaker at the Friday afternoon session.

Agricultural interests and industry have much in common and should collaborate more closely in achieving their objectives. That was the keynote of the Friday address by H. L. Wingate, president of the Georgia Farm Bureau Federation and vice-president of the National Cotton Council of America. Mr. Wingate, in discussing the relationship of Southern agriculture to industry, said that the price guarantee on cotton was a guarantee to the farmer, business, banks, lending agencies and all concerned.

He strongly urged that a 90 per cent guarantee of parity be placed on cotton. Mr. Wingate described the strides that farmers had made in organizing their activities and making themselves heard in the national legislative halls and added that their pleas were being recognized more readily by legislators. He registered opposition to the minimum wage law as it is now written and strongly objected to the Walsh-Healey Public Contracts Act. Minimum wages, Mr. Wingate said, should be set to fluctuate with the price structure of commodities and should be in line with parity. The contracts act, he charged, established a two-price system on production that was unfair to workers and industry alike. Mr. Wingate emphasized the need to maintain a high national income with a good return to the farmer, worker and industry. He lauded the work of the National Cotton Council and described it as the most powerful organization in the South.

The final meeting Saturday morning included addresses (published on following pages) by G. Ellsworth Huggins, chairman of the Cotton Textile Industry-Wide Committee on Public Relations, and Dr. Claudius T. Murchison, president of the Cotton-Textile Institute. Mr. Huggins, of Martel Mills Corp., received commendation for the public relations work when A. C. M. A. members re-elected him chairman, voted to continue the program and adopted a resolution endorsing the program of the committee. Individual resolutions were approved as follows: thanking Harvey W. Moore for his unselfish efforts on behalf of the association and wishing him speedy and complete recovery of health; expressing sorrow at the death of Dr. Jacobs and recording officially appreciation of his contributions to the association's welfare; vigorously protesting the possible use of European

Co-operation Administration funds to supply new machinery and equipment to the textile industries which come under that program; and recording with regret the deaths during the past year of 58 executives affiliated with the textile industry.

Harvey W. Moore

IN April of 1948 at the New Orleans convention of this association, the members of this organization paid me a great honor when they elected me chairman of their board of government. When I accepted that position, little did I realize that this would be one of the most eventful years in the long history of our association. If I had clearly seen the path which lay before us, I might have accepted with considerable reluctance the gavel which was passed on to me by my predecessor, Fuller E. Callaway, Jr.

But such foresight was not given me and it is perhaps well that we cannot see what lies before us. Three short months after that meeting, on July 25, 1948, our beloved president, Dr. William P. Jacobs, passed away in Washington, D. C., after an illness of ten days. Dr. Jacobs died in the line of duty for this association. He had known for many years that he suffered from a heart ailment, but that knowledge had in no way diminished the great energy and initiative which he exhibited in behalf of the industry. In all the activities in which he participated, he was a tower of strength. His dynamic and pleasing personality, combined with his brilliant intelligence made him a leader of unsurpassed qualities.

It will be recalled that Dr. Jacobs was elected president and treasurer of the association in the early months of 1945 and that he immediately went about the difficult task of strengthening and revitalizing the association. Building on the long and honorable history of the association, he fashioned an alert, aggressive organization and placed the American Cotton Manufacturers Association in the forefront of negotiations on a national and an international level. He was a forceful speaker, a clear thinker, and I am particularly proud to have known him and to have been associated with him. I believe that this association owes a great debt of gratitude to Bill Jacobs, and I hope that our organization will always live up to the high standards which he so courageously set.

In spite of the blow which we suffered in the loss of Dr. Jacobs, I am proud to report to you that the association did not vary from the swift stride he had set. Those who were left with new responsibilities redoubled their efforts. At times, we called on various manufacturers to assist us, and without exception we found them willing to give of their time and their efforts in behalf of the association and the industry which it represents.

In this connection, I want to pay particular tribute to the chairman of our legislative committee, Charles A. Cannon. Frankly, I do not know what we would have done if we had not had Charlie Cannon. In commenting on Mr. Cannon's activities last year, Fuller Callaway remarked at the New Orleans meeting that the association could not have duplicated the services of Charlie Cannon for \$50,000. At the time, I thought that that sounded like quite a bit of money but, after having had the privilege of watching the chairman of our legislative committee in action for the past

several months, I can not only agree with Mr. Callaway but I am also tempted to double the figure.

When Congress convened in January, our industry was faced with numerous threats. Like other industries in America, we were wondering what was going to happen on the minimum wage question, what changes were going to be made in the Taft-Hartley Act, and what Congress would do about the tariff problem. Naturally, we were also concerned about tax legislation, and we viewed with a jaundiced eye the many references being made to plans which in our minds meant the further socialization of the nation. To meet this situation, we moved aggressively, strengthening our Washington representation and doing everything possible to keep informed of the rapidly-changing situation. Through Mr. Cannon's initiative, representatives of the association have appeared before committees of Congress on such important questions as the revision of the minimum wage and changes in the Taft-Hartley Act. Additionally, numerous statements have been filed with regard to tariff legislation and other questions.

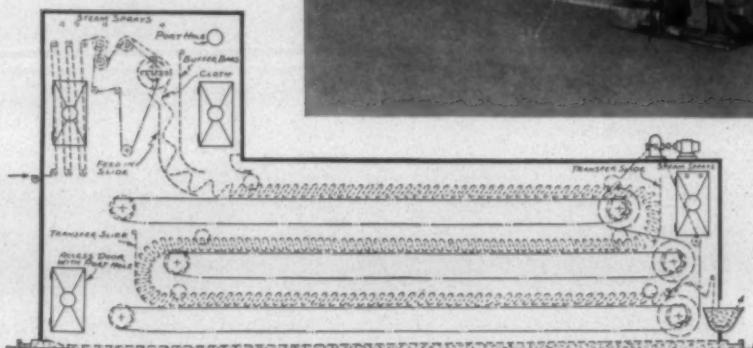
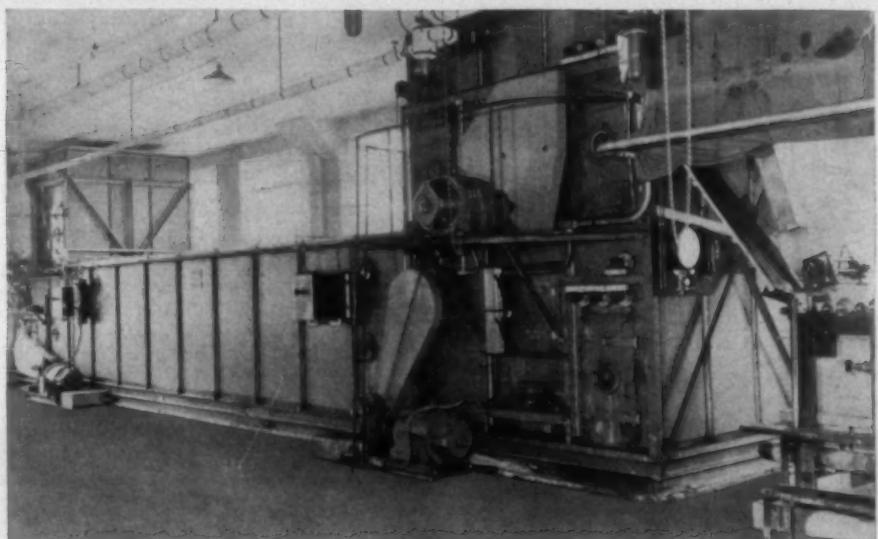
At the beginning of the session, we felt that the industry might suffer irreparable damage as a result of unfortunate legislation; but I am pleased to tell you that we have found that we have more friends than we had realized. I recommend to you an aggressive, forthright policy in dealing with the Washington situation. Our industry is an important segment of the American economy, and it is our right and our duty to speak up vigorously in defense of our businesses and the hundreds of thousands of people we employ, as well as to propose positive and progressive programs. If we do not have that right, then we can no longer refer to this as the greatest democracy in the world.

It is my opinion that we are now teetering on the brink of a socialistic economy. As examples, I point to the government's threat to construct steel plants and to pending legislation which would socialize the medical profession. Our association is watching closely this trend and I urge that you as textile manufacturers and as individual American citizens do likewise.

From the standpoint of our other numerous activities, we began shortly after Dr. Jacobs died the issuance of a monthly report to the members in which we listed some of the activities in which the association was currently engaged. This was done in order that each of you might be fully informed as to the policies of the organization which represents you. We hope that you have followed these statements each month and that you are informed as to the details of our operations.

From the standpoint of major questions of policy, we have watched with considerable concern the situations existing in Japan and Germany. You will recall that in January of 1948 at the invitation of Gen. Douglas MacArthur the association sent a mission to Tokyo, composed of Dr. Jacobs and Donald Comer of Alabama and Fred Symmes of South Carolina. This mission recommended to General MacArthur and to Congress a positive program which, it was felt, would permit the United States Government to fulfill its mission in Japan, while at the same time giving our own domestic textile industry maximum protection from low-wage Japanese competition. Practically all of the suggested program has now been adopted, and some months ago the association recommended that the government try to secure the services of Frederick A. Williams, who had

Open Width Steamer Makes Cotton Finishing *One Completely Continuous Process*



Above: photo shows caustic unit of one typical installation.

Left: side elevation drawing illustrates general arrangement of three conveyor steamer.

By means of this Proctor-Mattheison continuous bleach system, goods can be handled in the open width, eliminating kier and jig scouring from cotton finishing. Thus, it becomes a completely continuous process, eliminating the time and labor involved in loading and unloading the kier or jig. Scouring time is reduced from several hours to less than one hour. Cloth is treated in a manner which eliminates the danger of rope marks or other distortions to the weave. Fabrics of any width and any weight may be handled efficiently and economically. From a cost standpoint the evidence indicates considerable saving over less recent and less automatic operations.

The system is made up of two units—one for caustic and the other for the peroxide phase of the operation. The housings for the two stages are made of insulated stainless steel panels. Inside may be one,

two or three stainless steel perforated plate conveyors which carry the goods. Material is padded preparatory to feeding into the first unit of the steamer. Inside the steamer it is carried over rolls where it is subjected to steam sprays which bring the temperature of the goods up to 212° F. The material is then run in contact with a rotary plater so as to deposit the goods on the conveyor in the vertical plaits of relatively uniform height. Where multiple conveyors are used, there is a discharge transfer slide so as to guide these plaits from one conveyor to another. The material is taken off the last conveyor and run into the washer for caustic or peroxide removal, as the case may be.

The system may be designed to meet individual mill requirements. When writing for details please supply as much information as possible about your processing to enable us to intelligently answer your questions.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

Proctor & Schwartz, Inc. 679 TABOR ROAD • PHILADELPHIA 20, PA.

long been one of the industries' outstanding merchandising men. This suggestion was accepted and Mr. Williams is now in Japan directing the textile operations there.

We have also been keenly aware of the situation in Germany. Last Summer we held a conference with the Under Secretary of the Army and explored this entire picture with him. We pointed out that the flooding of the American market with goods made in foreign mills, subsidized by American tax money, will seriously jeopardize the jobs of American textile workers and will threaten the very existence of one of the nation's great defense industries. I recommend that we continue to give close attention to these questions and that we do everything in our power to protect our interests and those of our employees.

In a somewhat similar connection, I am pleased to report to you that upon the authority of the executive committee of the association we authorized this organization's participation in the formation of the Textile Industry Committee on Foreign Trade which was formed in co-operation with the Cotton-Textile Institute, the Association of Cotton Textile Merchants of New York, and the Textile Export Association of the United States. The Textile Industry Committee on Foreign Trade has employed Gordon W. Rule, and through his co-operation it is hoped that we may maintain a close watch over the foreign situation.

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If there were ever a need for research in the textile industry, certainly it is today. Textile executives who think that research is a waste of money, time, and labor, are the very executives who will find themselves "lagging behind" in the future. An editorial in the *Journal of Commerce*, dated March 2, 1949, entitled, "Trend in Textiles," answers one of the reasons for research in the textile industry, by the statement, "In these trying times for the entire textile industry there has developed a great emphasis upon quality." Buyers of textiles today are very, very critical, and evidently expect standards of quality far higher than they have ever required before. Spencer Love may be very close to the target when he says, in a recently reported article in *Business Week*, "It is a rough and tumble, competitive situation with few holds barred. Business from here on in will go to the firms that produce what the public wants and at prices the public wants to pay."

The fundamental purpose of any corporate policy is, of course, to keep that company adjusted both defensively and offensively to changing industrial conditions. There are no more powerful or irresistible causes of industrial changes than new technological developments coming from research. Not only are such developments offering new opportunities to additional profits, but also, what is even more important, they are increasingly presenting new hazards to existing profits. A corporation or publicly-owned stock company is the normal and natural means of conducting large scale enterprises involving many individuals. If we assume the political survival of the corporation, in some form or other, we must consider research and its part in the competitive and financial survival of the corporation. In any highly competitive business, research is considered necessary to the survival of the corporation.

Does the textile industry fall into the category of a "highly competitive business?" I would hazard a guess that it is unique in this respect and it is probably the most, or one of the most, highly competitive businesses in existence. What happens in an industry that is highly competitive when business begins to disappear? Better quality and lower prices are demanded. What can research do about it? Research might be able to do a great many things that would help, provided top management has had faith in the scientific method and has encouraged and nurtured research. Quality is always important, but it becomes of tremendous importance in a declining market. We feel that research can make valuable contributions here, if permitted to do so. One of the early functions of research, and probably the oldest, was a form of first aid. Some company found itself in trouble with products going off quality or the process losing its efficiency, and it called upon the engineer or chemist for help.

The second function is much more important today and we might call it preventive. A part of the research budget of the average company now finances a sort of life-extension institute, which is designed to improve the quality, lower the cost, and to expand the market of existing products of the company. While it has been found that work of this type is almost uniformly beneficial, it needs to be extended to a third phase.

An increasing emphasis is being placed on this third function of research, which can only be called obstetrical. One of the strongest of current technological trends is the growing tendency of one manufacturing company after another to bring out new products, and to go into new markets in which they have not previously competed. It is a belated recognition of the fact, not always appreciated in the past, that corporate profits can no more be perpetuated without new or better products than family names can be perpetuated without children.

It is of interest to me, and I think it will be of interest to you, to know that Batelle Memorial Institute at Columbus, Ohio, expended 5½ million dollars on research last year with a staff of 1,300 people. Mellon Institute in Pittsburgh spent slightly over three millions, with a staff of 736. The Midwest Research Institute expended slightly over half a million dollars with a staff of 126; and the Southern Research Institute in Birmingham spent slightly over 400 thousand dollars with a staff of 92. Any company may take a project to the institutions I have mentioned, which certainly does not cover the entire list, and the

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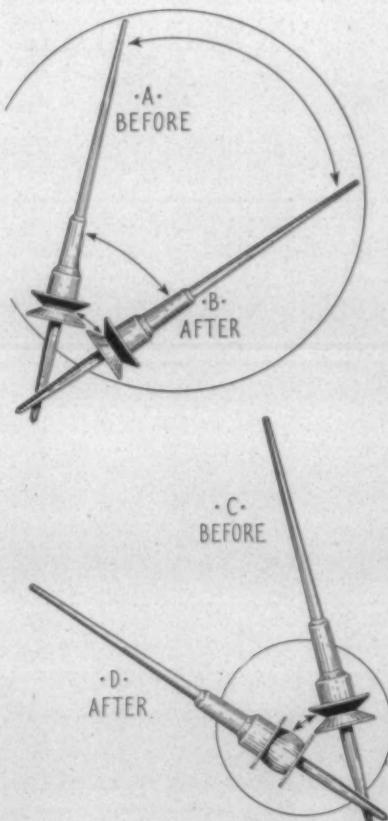
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PRECISION-RECONDITIONED SPINDLES

- A. This spindle is badly worn. Note the wornout top, acorn and drive . . . Now look at spindle (B) . . . the same spindle reconditioned by GOSSETT master technicians.
- B. The worn top has been cut off and a new piece of spindle steel butt-welded onto spindle blade and the top ground to specified size. We also build up the worn top with hard chrome plate and grind the top to size specified. After retopping blade, if necessary we put on a new whorl (made by GOSSETT).
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Detaching Rolls • High Production Comber Feed Rolls •
Comber Draw Box Rolls • Drawing Frame Parts
(Metallic Drawing Frame Rolls, Common Drawing Frame
Rolls, Calender Rolls, Slide Blocks, Coiler Parts, Clearers,
Gears, Weights, Weight Lifting Devices, Traverse

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Bottom and Top Rolls for roving or spinning frames •
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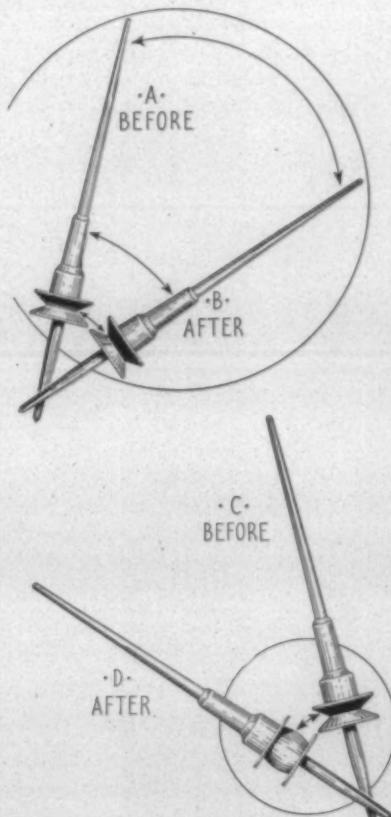
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quoted figures of expenditures are adequate proof of what many people are doing about taking projects to them.

In the textile industry we have two co-operative ventures, the Institute of Textile Technology at Charlottesville, Va., and the Textile Research Institute at Princeton, N. J., that are concentrating solely on textile problems. The Federal Government is spending millions of dollars in research on textile fibers, textile processes, and textile products. Also many private companies have definitely committed themselves to research programs. From the above, you will see that it is possible to do research yourself, farm it out to institutions, or to join in a co-operative venture with other people or other members of your industry.

We cannot emphasize the fact too strongly that research should and must be done, no matter where it is done. Just as we cannot continue to draw upon our savings account without replenishing the fund. We cannot continue to draw on our store of fundamental knowledge without replenishing that store. The Institute of Textile Technology and the Textile Research Institute are excellent places to carry on the major portion of our fundamental study, while research groups and private companies can translate and tackle the more immediate problems.

Scientific research, applied research and invention, working together, produce our technical progress. Good research management tries to keep these three parts of industrial research balanced and aimed in the direction of the industrial companies' objectives. Research is a long-range operation which requires firm adherence to the methods of science and the tools of scientific study. It is not a bug-hunting expedition, and should not be subservient to anticipate the incessant growth of the company and to aid that growth into permanent and profitable activities.

Research results, therefore, cannot be obtained by the mere hiring of researchers or the building of a laboratory. Results come from a state of mind on the part of management evidenced by (1) faith in the scientific method, (2) participation with a research staff and its program, (3) the statement of clear policies, and (4) the statement of the corporate objectives.

Industrial research accomplishes its results by keeping its

eye everlastingly on the target and if the target, in the form of clear-cut objectives, is not exposed by management, research has nothing definite to shoot at. In other words, management must help research by telling it not only in what direction it is going but also how far to go and in how much time.

When management has a well established, well organized research division, it has at its command a tool the power of which is only commencing to be realized. In order to understand and make full use of industrial research and development as a tool, management should look upon it from the following four angles: (1) why have it; (2) how to get it; (3) how to control it; and (4) how to apply it.

In connection with the first question (why have research?), research and development would not be necessary if (a) human wants and needs did not change; (b) if we had no competition; and (c) if we were doing all the business we wanted to do and never needed or wanted to expand. The second factor (how to get it) depends upon whether you want to do research yourself, farm it out to some private organization, or join a co-operative venture with other companies in the same business. How to organize and control it will also depend largely upon the type of research you elect to do, and applying it will depend upon understanding, co-operation, and confidence. What we are looking for is a better realization that technical work, including research and engineering, manufacturing, and sales, are three legs supporting a whole organization. Since none can operate successfully as separate entities of the same unit, the only other possible way towards doing it better is a complete understanding and appreciation of the what and why of the other fellow's job.

The fact that my assigned subject for this address is, "The Need for Research in the Textile Industry," is sufficient evidence as to the slowness with which our industry has undertaken research. This is not unusual when we realize that our industry is one of the oldest in existence and, due to its age, has been largely an art and craft industry. Further, the textile industry has done an amazing job. As we look at the fabrics you are wearing here today, we realize that most of the information and processes of manu-



McKissick



Swift



Ruffin



Taylor



Stall



Winget



Hall



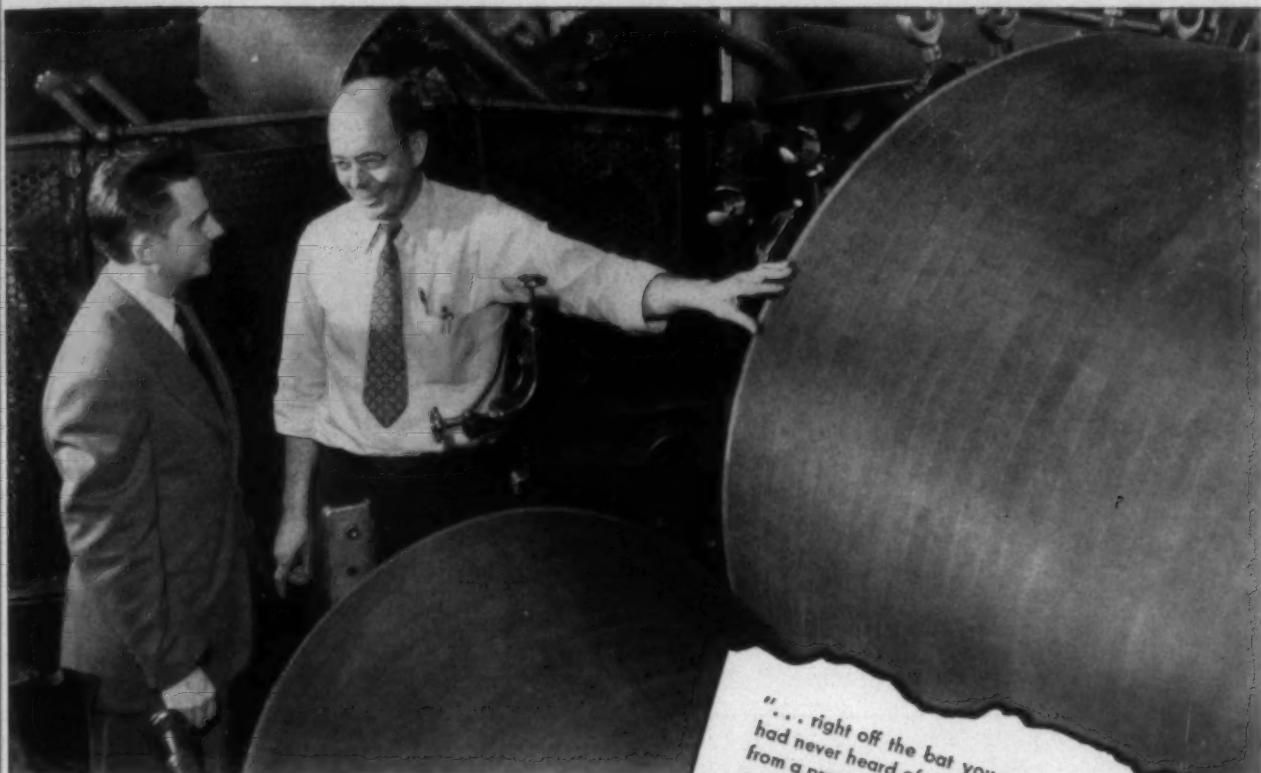
Hertwig



Moore



Love



TUFFER Men Give You Practical Help

Practical help by TUFFER men has long been a policy of Howard Bros. Constantly we receive letters from customers expressing appreciation of the "over and above" service given by TUFFER men. They are qualified by specialized training and experience to give workable suggestions and recommendations.

FROM RECENT LETTERS: →

Talk over your carding problems with a Howard Bros. representative. Write today to our nearest plant or office.

"...right off the bat you gave me an idea I had never heard of, one I can now appreciate from a practical angle. You know how to make good the claim in your advertising that your representatives are 'practical' men in time of need."

"Your representative told us things we had never heard of, much less thought about, which gave us immediate improvement in our production and quality."

"I'm not buying anything but Howard Bros. Tuffer Card Clothing, and that goes as long as they give the same quality and service."

HOWARD BROS. MFG. CO.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas

Direct Representation in Canada

A-3

IMPROVES PRODUCTION ALL ALONG THE LINE

fature were acquired the hard way. The men who have directed the affairs of this great industry down through the years deserve a tremendous amount of credit for the job they have done.

The question now before the house is, can we continue to develop and project our industry as has been done in the past with a practical viewpoint? Or do we feel that we must do the job in less time and with surer results by utilizing the methods and tools of science available today along with an equal measure of practical experience? The very word "research" has a magic quality that calls to your mind some of the brilliant results obtained during recent years. The new drugs that are such a blessing to humanity are an outstanding example. The press only reports successful research work. What the word "research" does not mean to the layman is the slow, tedious, painstaking search and re-search for the truth, the many, many failures experienced along the way; the faith and the courage to carry on a project for weeks, months, and sometimes years with little signs of achievement other than the fact that you are slowly advancing the frontier of human knowledge.

Researchers learn to think positively. They learn to use both synthetic thoughts, thoughts of others, and creative thoughts, thoughts that are original, realizing that every failure brings with it the equivalent of its success. The idea that there is a finality, a routine cut-and-dried sameness to the making of a yard or a piece of cloth is not true. The "final" is forever beyond our reach. We are forever incomplete, and it is because we sense so keenly this fascinating challenge that we more than welcome the counsel and criticism which customers often pass on to us voluntarily. What most people fail to realize is that negative results in research sometimes can be extremely valuable because when these thoughts are directed to a definite end they become power. Therefore, there is a need for constant scientific and economic evaluation at all stages of the project, impartially weighing all evidence in favor of continuing the work, as well as stopping further work in that field.

A research worker must not let his preconceived ideas, uttered or unexpressed, interfere with the accuracy or the thoroughness of his work. Neither must he be afraid to face the facts even when they are disconcerting. No matter what path one might undertake today, the need for a process of education to both parties concerned will become quickly apparent. All too often science is pictured as an ivory-tower affair. Probably one of the reasons is that it is sometimes difficult to explain exactly what the project will accomplish, to the same degree of precision that is demanded in manufacturing and in sales. The promises of science are boundless but, unlike the promise of the merchant, scientific promises are not payable at a given place or on a stated date, and certainly the promises of science are not payable on demand. The idea that a textile manufacturer has learned all there is to know about textile manufacturing is fiction of purest ray serene. Why? Because everything connected with people or with places must obey a tyranny as old as gravity itself, the tyranny of change. Try to think of something that does not change and you will find only one perfect example to end your search: change.

Research, however, must make every effort to outline the target and the expected results as accurately as possible.

Both scientists and management may have been at fault in not harmoniously educating each other with respect to their viewpoints and their way of life. The manufacturer has to produce and he is vitally concerned with time, tonnage, and cost. The law of averages is his guide and salvation. He cannot be too concerned with exactness in most instances, for this factor affects his volume and cost too heavily. He must make a profit or the business cannot long exist and there would be no funds to pay for research or anything else.

We should not be surprised, then, at the average manufacturer's attitude towards research because his training and the demands of his job naturally influenced the developing of his state of mind. Research generally means change and the normal human being is most reluctant and resistant to change.

The scientist, on the other hand, has to be concerned with exactness, with careful measurements. Often he has to develop the tools with which to make measurements after he has first decided what he wants to measure. He is concerned with true facts and every effort must be made to obtain them. However, the scientist has to develop an appreciation and an understanding of the problems and thinking of production and recognize that somewhere along the line the project is good enough for manufacturing and should be turned over to them.

All too frequently there is a strong tendency to think of gearing research to production, while it is equally important to learn to gear production to research. The extent to which this is done will measure to a large degree the success of research in industry and will confirm the fact that both parties realize that this is a two-way street.

H. W. Fischer of Standard Oil Co., recently addressed the Industrial Research Institute at Rye, N. Y. He stated that, "Manufacturing expects no more of research than it does of any other unit of an organization and it should expect no more than it is willing to give in loyalty, co-operation and appreciation of the over-all task at hand." As each member of these respective teams recognizes that the other has ability and experience, a mutual feeling of confidence and respect comes into existence, and then we begin to sink some long puts. By teamwork we mean not only teamwork in the research group itself, but also teamwork with management, teamwork with sales, and teamwork with manufacturing for maximum effectiveness.

Claudius T. Murchison

WE no longer live unto ourselves. We have learned, during the past few years, that the textile industry is very much affected by its offshore business. In 1947, the year of our greatest prosperity, we exported 1,500,000,000 yards of fabric, and that is exclusive of yarns, exclusive of many other items such as table cloths, sheets, bedspreads and items of that sort that go over in finished form, giving those a separate category.

In the importation of those fabrics was represented the difference between an extraordinarily high degree of prosperity for the industry and a possible year of recession. For the farmer, it meant the equivalent of a million and a quarter bales of cotton, so that when we look with some discouragement at the actual number of bales of raw cotton

exported, let us all comfort ourselves a little by saying, "How many additional bales went across in the manufactured state?" A million and a quarter of such bales went across in the manufactured state in 1947.

In 1948 those exports began to decline, and although we were able to retain about a billion yards of export business, the loss of that half billion yards meant a tremendous difference both to the manufacturer and to the farmer. However, even at that, three quarters of a million bales of cotton went across in 1948 in manufactured form, and it is my judgment—and I believe it is the consensus of all the exporters—that the cotton textile industry of the United States really needs that billion yards of cloth for its continued prosperity in the years to come. And, when I say a billion, I am talking in terms of a minimum requirement.

Even though this year's foreign business is being well maintained (the January figure being 102 million yards, which is the best January export business we have ever had in our entire history) we have got to struggle hard during the months to come to keep that business. If we do not have it, the pressures which are now so heavy upon us will become that much heavier, that much more effective.

Our textile trade is extremely important to us, but if we are going to take a proper constructive attitude toward the foreign trade business of the American textile industry, we have got to place it against the background of our total world trade situation. At the present time that constitutes one of the most intriguing economic problems of the world.

We have an export trade—and I am now speaking of the totality of our commodity exports—which ranges in the neighborhood of from 12 to 13 billion dollars a year. We have an import trade that is about five billion dollars under that, and how is it going to be possible to maintain the huge export trade and finance it when the imports have a tendency to run so much lower?

Now, there we have a paradoxical situation. In this industry we do not want additional imports, and there are a number of other industries that do not want additional imports, because we are supplying in full measure the needs of the American people. Yet we know that in some way imports or their equivalent must be expanded if we are to maintain the huge export business which has become integrated to such an extent with our economic life that without it we might face national disaster. What is maintaining this huge export trade at the present time? It comes right back to the E. C. A. and the other financial aids being supplied by the United States Government either in the form of

grants or loans amounting to about five billion dollars a year.

Can we possibly continue to make such huge payments? Yet, how dare we stop them? How can we maintain the huge volume of exports of cotton and grain and meatstuffs, not to mention the huge volume of manufactured goods, when those exports have got to be financed by dollars which can be created only through the importation of goods or through the extension of loans and grants or—and this sounds like getting down to peanuts, but it may constitute a pretty big peanut one of these days—the building up of tourist traffic.

I believe that in thinking over this problem there are very few people who take the trouble to look at it as strictly a business proposition. Every exporter from the United States must, of course, have dollars. Wherever he ships to in the world, he is selling for dollars. He may be shipping to a man in France or in India or in England or in South America—every one of those countries having a different currency—but irrespective of that the exporter has got to have dollars. Where do those dollars come from?

First, by imports. Second, by tourist travel. That business was a pretty big volume in the past year, about a billion dollars, and we may be able to double it. If we can, it will be a terrific thing for the maintenance of the American export trade. Third, by making foreign investments. Fourth, by the extension of loans. Those are the only ways in which it can be done.

The export-import paradox for the United States is that we have such a gigantic production power, such a tremendous urge to sell, we are putting every possible pressure behind these exports all the time and we are looking with a dim and sinister eye upon the return flow of imports—and that is truly a paradoxical situation for us. If we shift our view to the British, we will see that they are in exactly the opposite situation. With them the problem is to be able to export enough to pay for their import requirements. Their needs for raw materials and foodstuffs is so great that never for a moment are they worried about the volume of imports. They are praying and struggling that their imports may become bigger, and the great export drive in England is to get those exports up, get them as big as possible so that they can finance their imports.

With us, it is a problem of getting our imports as big as possible so that we can finance our exports; precisely the reverse situation. That is an important element in this world trade picture, because, under the pressure of having



Among those present at the opening business session Thursday afternoon.

at all costs to meet the needs of a tremendous import requirement, Great Britain has to maintain her currency controls, her exchange controls, over the entire world. I know you hear every day that England is probably tottering on her last legs. We hear about the British having to suffer the most rigid rationing. A man is allowed to have a pair of pants maybe once a year; maybe a shirt a year; an over-coat every five years; an ounce of bacon a week; and so on and so on. We think that surely England is on her last legs; but no, that is a procedure which is necessary for her rebuilding, to regain her strength. It is my opinion right now that the power of the British Empire in the world of trade and finance is as great, if not greater, than it has ever been in the entire history of the British Empire.

Let us take a little look at the implications of that. The American dollars which are available in the world as a result of our purchases of goods, as a result of our tourists going abroad, are, in almost complete degree, corralled within the control mechanisms of the sterling area. Their administration is under the eye of the British Treasury; under the eye of the Bank of England; and then under the local controls of all colonies, all the local areas within the empire system. Within those markets which constitute the greater part of the world trade markets, which constitute the areas into which the bulk of the American exports are going, whenever they wish to buy American goods, it means an allocation of dollars through this system of empire control.

Wherever the importer is—is he in England, in Singapore, in New Zealand, in Australia, in Karachi—he goes to his local authorities and says, "I want to buy some American goods. I would like the dollar exchange." If the exchange is available, he has got to get an import permit. The two things go hand in hand. Beyond that is the decision of the bigger government. How many dollars should be allocated to that area? Behind that is the philosophy of a central system in London. How many dollars for that area? And behind all that is the total number of dollars being created by the importation of goods into the United States. See how it works?

The movement of practically every shipment of goods from the shores of the United States is a movement which is determined by individual decision, which is totally apart from the activity of the buyers and the sellers, somebody determining whether the dollars will be available for that purchase, determining whether this item should be bought or that, and how much, and when. So, world trade is no longer a question of the individual exporter going out, finding the business, selling to the limit of his resources and with the counteracting situation abroad in terms of usual competition. There isn't that any more.

World trade is under a system of administrative controls and it becomes the function of the United States Government to intervene in this system of world controls to the interest of the American exporters and to the interest of the import requirements of the United States.

I have been talking with representatives of the National Cotton Council about this problem. Mr. Wingate told you that the time had come to move in positive ways, in constructive ways. After his speech I was listening to a man out in the corridor who had one of the wisest heads of any man in the industry and he said, "You know, after hearing Wingate, I have been thinking. It seems to me that the

farmers are taking the positive, the constructive view and our industry has always been taking a negative view. We are geared up to defend on the immediate front against the immediate problems."

In this world trade situation, we cannot do that any longer. The foreign exchange situation has become so intense and so powerful a reality in this situation that the foreign exchange mechanisms and controls are determining the character and the direction and the distribution of world trade, which is just the reverse of what it used to be. There was a time when each country developed its trade in terms of its own resources, in terms of its own selling power. Today a country determines its share of the world trade in terms of its relationship to the foreign exchange of the world.

How puny, then, it all seems, for our government to be thinking in terms of this little reciprocal trade agreement. How puny it is. How utterly ineffectual it is in meeting a problem such as this, because all that it conceives of, all that it contemplates, all that it thinks about is, "We can take the State Department of the United States and try to control the world trade situation by lowering American tariff rates."

Even without the necessary economic studies to determine where the points of protection should be and to ascertain what goods should come in and how many; but striking everything alike, striking our own industry, whose power to supply the American people is anywhere from 20 to 30 per cent greater than the quantity the American people themselves can themselves possibly consume—how puny to talk about the I. T. O., of which you have heard so much, setting up an international agency which has the power to determine what the trade policies of the different countries should be collectively; taking away from the United States its independent sovereignty and determining its policy.

Of course, I will admit this: that our policy, as we have had it, has not been something to be terribly proud of, but then, perhaps, we can make it something eventually of which we can be proud. We want to work it out ourselves and not leave the destinies of this country in the hands of an International Trade Office and so have our business determined by the votes of the delegates, we will say, from South America and Africa and Europe.

What, then, should our objectives be? To make as many dollars available throughout the world as possible? Yes, and that means the setting up of a system of protection which will protect American industry against foreign imports where such protection is needed, and that need can be ascertained. Already 58 per cent of our imports are on the free list. Let the goods of the world come in. Yes; we need them in huge quantities, but let them come in with due respect for the industries which we have developed, which are necessary to our economic system and which we are going to maintain. Develop American travel to the greatest limit possible by ship and airplane in all quarters of the globe. Our experience of the past indicates that that can, within the foreseeable future, amount to a tremendous percentage of the deficit which we now have between our exports and our imports. Every person who goes abroad, every person who spends a dollar in a foreign country, is making the world trade problem that much simpler, assuming, of course, that he is not exceeding his own personal trade situation.

And then, finally, we should have a wise policy with

respect to foreign investments. That involves not only the quantity of foreign investments and the location, but the character. We certainly do not want to spend 250 to 300 million dollars of American money to finance cotton mill competition in foreign countries. If foreign countries can develop their own industries from their own resources, very well. It is their own business. However, let's not take the funds of the American taxpayer to accomplish that. Let us think of foreign investment in terms of public works, to build up the resources of foreign nations; and as that is carried on that, in itself, will keep continually pushing back the pressure to bring in imports; it will make the situation easier.

So I, speaking for the manufacturers — Mr. Wingate speaking for the farmers—both say, let's join forces and meet this world trade situation which I have tried to outline to you. Meet it constructively; meet it intelligently; meet it to the end that the prosperity of the United States can be maintained and expanded in the years to come.

G. Ellsworth Huggins

OUR country and our world is in a most critical struggle and your industry, which three years ago few of us realized could claim to be the second largest industry in our country, can and should make a corresponding contribution to the intellectual awareness of our danger and take a cor-

responding part in the preservation of our freedoms. Ours is an industry in which the individual freedom of management has been maintained in hundreds of separate independent and individual units.

For generations businessmen gave their every energy to the development of our industrial mechanism and know-how. The ability and skills developed were demonstrated when in two world wars we were able almost overnight to bring to bear our entire national resources in the protection and preservation of our country and its liberties.

The surplus earnings of the leaders in industry through the years have been to a large extent devoted to education and to religious, charitable and philanthropic enterprises. The businessman for 50 years and more did not follow through or concern himself with what was being taught or developed in the institutions of learning to which his surplus earnings had meant so much. In fact, he closed his doors and turned his back on the professor who sought to understand industry and business and who was left, thereby, to formulate his opinion about industry as best he might, an opinion to be passed along to the youth newly arriving every year in his lecture halls and classrooms.

Because business generally, and the textile manufacturer in particular, has been unwilling to share factual information about his activities with the public or the professor, the public has acquired through the years impressions and estimates of us that are false; impressions that, in the present,



Part of the large group which enjoyed the cocktail party given by the New York Cotton Exchange prior to Friday night's banquet.

when government so largely manages and directs business, have been very costly to us and very harmful.

I cannot review all of the activities of your committee on public relations. I pray that you read our quarterly reports for a comprehensive view of what we are doing. As I have said to some of you before, information about our industry by the Textile Information Service is now flowing to millions of people through newspaper and magazine articles and through photographs, booklets, public speeches and college lectures, personal interviews with influential persons, pictorial exhibits and through still other means which, thought indirect, have also been generated by this program.

All of this has been news material and none of it paid advertising. All has been designed to register with the public the economic importance of this industry to the nation as a major industry contributing enormously to the well-being of our America, to demonstrate the high caliber of the people who work in the cotton and rayon mills of America and the high level of community and social life enjoyed by the textile mill worker through health services and cultural, educational and recreational programs maintained in the mill communities.

And, to the man here who is thinking he may drop out of this program, I submit that our story must be told over and over. For several years we have been adding 200,000 souls per month to our population. We now have a Bureau of Census estimate of 148,000,000 people in the United States. Public opinion will never be static. It is highly fluid and subject to change and there are adverse winds blowing constantly to mislead and undermine favorable opinion of our industry and in fact adverse to all American industry, fanned by fanatic crusading elements some of whom at least, I believe, are crusading in all sincerity by reason of opinions and convictions based on alleged facts that are untrue. Industry must have the truth known. It is your privilege and your duty to make the truth about our industry, its people and its ideals known. It is an important part of remaining in business. Only truth can face down falsehood. Truth and truth only can keep you free.

I invite your attention to two developments in the influential realm of education, one at the college and the other at the high school level. I told you a year ago that we had introduced our story in the summer school at the University of Idaho by a course of instructions and a series of lectures given by Dean Williams of Lowell Textile Institute. He

was invited to return and, in fact, the University of Idaho sent one of its deans to New York to see if our committee could finance a course of instruction for the full college year. Dean Williams will return this year to the University of Idaho, but for only one week; so that, in addition, he may spend a week at the University of Illinois at Urbana and a week at the University of Denver. Negotiations are pending for a week at the University of Missouri and a week at the University of Washington.

We also have carried our story to other educational institutions by another method. Our photographic exhibit, which you have seen and which is reproduced in our photographic booklet, has been exhibited in the past year for two weeks at each of the following colleges: University of New Hampshire, Colby College, Bowdoin College, Boston University, New Hampshire State Teachers College, Lowell Textile Institute, Bates College and New Bedford School of Textiles. We know from comments received that the exhibit was examined with real interest by the college communities. It is now starting on a tour of educational institutions in the South, and just recently was at the University of South Carolina at Columbia.

Let us turn now to the high school, where there are hundreds of thousands of youth today who will be in the voting booths tomorrow. There has been developed a new and most important contact with secondary school teachers. In Massachusetts there is a New England School Science Council, which consists of and represents the teachers of science in high schools, and which is co-operating with us on this important new undertaking. At our invitation they sent a committee to an outstanding mill to look for means and methods of demonstrating practical examples of simple, basic scientific theories which teachers are obliged to handle in the abstract in their classrooms. Following this survey, the committee prepared a syllabus to be used in a visit to the mill by groups of 40 to 50 teachers from surrounding towns. The first of these visits was scheduled to occur April 6 when the teachers were to visit the Crown Mfg. Co. at Pawtucket, using the syllabus as a guide. Of course, they are studying specific scientific demonstrations of principles to be used later in the classroom, but this affords us the opportunity to give them a complete picture of a modern textile plant; its people, its methods, its environment. It brings the teachers into the mill, not on a propaganda level, but in a true scientific, co-operative effort between industry



Pictured are some of the notables seated at the head table during the banquet.

and education which, in our opinion, will generate the best kind of prestige and informative publicity for the industry. This plan will be repeated in other strategic points through New England.

The plan had hardly been formulated when it was submitted in North Carolina to the state educational authorities, with the result that the same program and technique will be instituted there and I hope in other states. The first operation in North Carolina is scheduled for May 9 at Cannon Mills in Kannapolis.

Who is there can calculate what the value and the impact

of such a relationship would have been if it had been currently in operation for 15 years prior to Mr. Wallace's induction as Secretary of Agriculture and his inauguration of the processing tax. I submit to you that this matter of public relations for our industry is neither a frill nor a luxury and it is a matter of particular importance in these times. Please do not confuse public relations with advertising to sell a product nor mere publicity to promote individual or corporate prestige. Public relations—local, state and national—are elusive and nebulous but as vital as the oxygen in the air you breathe.

VICARA—A New Fiber

By GRACE R. WILDERMUTH, Virginia-Carolina Chemical Corp.

VICARA is a new textile fiber which has grown from years of research by Virginia-Carolina Chemical Corp. V-C's products have been serving industrial and agricultural interests for considerably more than half a century. Now, in addition to textile chemicals, a textile fiber is offered to the industry.

History of Protein Fibers

As early as 1894, reference was made to the gelatine-base fiber. Casein fibers were produced in 1905. Practical studies of casein fibers were begun in Italy in 1924 by A. Ferretti. In this country, National Dairy Products Corp. began production of a casein fiber in 1940, and lately abandoned it. There are several protein fiber plants and pilot plants in the world at present, in Italy, Holland, Germany and England. In the United States, Virginia-Carolina Chemical Corp. is the only commercial producer of a protein fiber.

Textile fibers have been made experimentally from many protein sources and several government laboratories have devoted time to this research. These proteins, though chemically similar, give fibers with different physical properties. Low tensile strengths in some are compensated for by unusual resilience; or high elongation is offset by good moisture absorbency. To choose the best all-round fiber is not difficult; to manufacture in commercial quantities is another story.

In producing such a textile fiber, several points must be considered; the most important being the chemical and physical properties of the fiber, cost of manufacture, and availability of a uniform material. It is this availability of the base protein that eliminates many of these materials as possible fiber bases.

Zein fibers were first produced in 1935 by Corn Products Refining Co. Most of the scientific contributions were made by Croston, Evans, and Smith at the Northern Regional Laboratory of the U. S. Department of Agriculture. The first publication, "Zein Fibers Preparation by Wet Spinning," appeared in December, 1945.

In 1939 Virginia-Carolina Chemical Corp. began investigating high polymers from protein bases. Many proteins were experimented with—peanut, casein, soybean, cottonseed, zein—and zein was recognized as the most adaptable

in fiber making. Development of the product has gone from the laboratory stage to a small pilot plant scale, to a large pilot plant, and finally to the ultimate goal of a production plant in Taftville, Conn. Zein is one of the proteins of corn. The production of zein in the United States is potentially unlimited in quantity.

Vicara Manufacturing Process

In the manufacturing process, the protein is first dissolved in an alkaline solution. This spin solution is extruded through spinnerettes into an acid-precipitating bath for coagulation, stretched, and cured in a series of hardening baths and treatments. The resulting tow contains 270,000 filaments. This is a brief description of the complicated process of manufacturing Vicara, but from the initial protein to the finished fiber many miles are traveled and many hours consumed. Throughout the entire operation, thorough and rigid controls are maintained to insure complete uniformity of the fiber.

Vicara is not offered as a substitute for any of the fibers now in commercial use, either natural or man-made. Because of its protein base, it is more like wool than any of the other fibers; however, it is not a synthetic wool. It is an individual fiber with distinctive properties. It can be made as 100 per cent yarn and fabric but best results have been obtained in blends; hence, "the fiber that improves the blend." It is our opinion that Vicara adds suppleness to rayon, a down-like texture to wool, and absorptiveness and warmth to nylon.

Physical Properties

Vicara has a soft, resilient hand and in its natural state, is light golden in color. The tensile strength is adequate for all textile operations (one gram per denier dry and 0.5 gram per denier wet). The elongation is about 42 per cent dry and 50 per cent wet; the ratio of knot and loop strength to straight strength is good. The elastic recovery is 100 per cent at a two per cent elongation and 98 per cent at a five per cent elongation. The specific gravity is 1.25. The commercial moisture regain is 13 per cent at standard conditions, the moisture absorption is 18 per cent, and the moisture retention is 38 per cent. The burning rate of Vicara is

slow, slightly faster than wool. Vicara is not thermoplastic; it has excellent heat resistance up to 302° F. for long periods; it melts at 525° F. The warmth properties are very good; in comparable Vicara and wool samples, Vicara was shown to be as warm as wool. The fiber is inherently moth resistant. It is highly mildew resistant; a Vicara fabric which was subjected seven days to soil burial test lost ten per cent in strength, whereas a similar cotton fabric completely deteriorated in the same time; after seven additional days of soil burial, Vicara showed only little additional loss in strength and no mildew growth could be detected. Microscopically, the fiber appears as a cylindrical, translucent rod with a circular cross-section. The properties of Vicara are not affected by age; there is no deterioration from weather exposure. No offensive odor is present in the finished fabric in either the dry or wet state. The fiber is non-itching and has never been known to cause an allergy.

Chemical Properties

The acid resistance is very good. Weak mediums have very little effect. Strong and concentrated solutions will only weaken the fiber. Vicara has an amazing resistance to alkalies and is, to our knowledge, the only protein fiber that behaves in this manner. In blends with cotton, Vicara can be mercerized. Qualitative analyses of Vicara-wool blends can be carried out by dissolving the wool in an alkaline solution. The alkali resistance is shown here.

ALKALI RESISTANCE

Sodium Hydroxide (Per Cent)	Temperature (°C.)	Time (Hours)	Solubility of Vicara (Per Cent)
5	23	17	0.00
10	23	17	1.70
25	23	17	2.20
.5	50	1/2	0.94
10	50	1/2	0.93
25	50	1/2	1.65

Organic solvents, many of which have been tried, do not dissolve the fiber. To the present time, no solvent has been found that will dissolve Vicara. Vicara will not withstand kier boiling.

Vicara is quite water repellent. This property has been chemically built into the fiber and is resistant to dry cleaning, laundering and dyeing. This water repellency does not interfere with dyeing or other wet finishing operations because its effect is lost at elevated temperatures and is apparent again upon drying.

Bleaching

Vicara must be bleached in cases where whites and certain pastel shades are desired. Several methods of bleaching have been developed; the hydrogen peroxide method, the peracetic acid method, and a two-bath process comprised of sodium chlorite and sodium bisulfite, the method of bleaching being dependent on the blend.

The peroxide bath consists of two per cent hydrogen peroxide, 1.5 per cent disodium phosphate, and 0.25 per cent of a wetting agent. The material is treated at 170°-180° F. for two to three hours. The pH is 8.6 at the start, and 7.3 at the finish of the bleaching. The ratio of liquor to material is 30:1. The peracetic acid bath is comprised of two per cent peracetic acid and 0.12 per cent tetra-sodium

pyrophosphate. The material is treated at 110° F. for one-half to one hour at a pH of 7.0-5.0. The ratio of liquor to material is 20:1.

The two-bath method is as follows: 0.5 to 1.5 per cent sodium chlorite, 0.25 per cent of a wetting agent, and enough acid, either acetic or sulfuric, to maintain a pH of 4.0. The material is treated at 140°-175° F. for two to three hours, washed and nipped several times and then treated with 0.5 per cent sodium bisulfite solution containing 0.25 per cent sulfuric acid at 90°-100° F. for one-half hour. The material is again washed. The ratio of liquor to material is 30:1. Tints are available which can be removed by conventional scouring methods.

Dyeing

In view of the affinity of Vicara for most types of dyes—acid, chrome, direct, basic, vat, developed, naphthol and acetate—it must be understood that complete information on the characteristics of each dye is not yet available, and selective dyes must be used just as they must be selected for any other fiber being processed for a definite purpose. Since Vicara is resistant to strong acids and alkalies, applications of acid dyes at the boil or vat dyes at high pH are possible. Dyeing can be carried out in staple form, top, yarn, or fabric.

Acid Colors—In some cases, Vicara dyes heavier than wool but this is not a rule. Certain acid colors dye wool heavier and in some instances the shades are similar. The rate of dyeing can be retarded by pretreatment with tetra-sodium pyrophosphate or disodium phosphate.

Chrome Colors—In general, the same can be said for the chrome colors as was said for the acid.

Direct Colors—Most of the direct colors dye Vicara slightly heavier than cotton, but here again this is not a rule since some directs have less affinity for Vicara.

Vat Colors—The stability of Vicara to vat colors is good, even up to ten per cent caustic soda on the weight of the fiber.

Generally speaking, it may be said that the smaller the vat particle size, the better color penetration. Here again the shade on Vicara compared with that on other fibers is a matter of selectivity.

Acetate Colors—Affinity for acetate colors is good but preliminary reports indicate resistance to washing, perspiration, and light are slightly lower than when applied to acetate.

Even though it was stated that Vicara, in some cases, takes certain dyes heavier than other fibers, in blends with these fibers and with conventional dyeing methods, level shades can be obtained. Several of the dyestuff concerns have tested and are testing Vicara; no generalizations can be made, each dyestuff must be tested. The dyeing characteristics of Vicara are apparently good and Vicara can be dyed without substantial changes in the procedure recommended for each dye. Extensive tests are in progress, not only with fiber and yarn but with 100 per cent Vicara fabrics, and fabrics blended with nylon, rayon, cotton and wool.

Textile Processing

Since Vicara is manufactured in tow form, various staple lengths from one-half-inch to six inches can be supplied. It has been produced in deniers ranging from 1.5 to ten but

at the present time is being supplied in deniers of two, three and four. These compare to wool grades of 62s to finer than 80s. A crimp has been imparted to the fiber to facilitate processing. Vicara has been processed on the cotton and woolen systems and on the tow-to-top machines.

When processed on cotton machinery, both the conventional and long-draft systems have been used. Better yarns have been obtained on long-draft machinery than on conventional machinery due to a more workable staple length of two to 2½ inches as compared with one to 1½ inches. However, satisfactory spinning reports have been obtained in both instances.

Vicara is fed into the picker and delivered in the form of a lap roll. Here, because the fiber is handled alone, some static may be encountered. A small percentage of an anti-static preparation when applied in the feeder will reduce this problem. After the lap has been blended with other fibers in carding, static is not noticed. Following carding, the sliver is drafted into roving, and spun. Blends have been made with cotton, viscose, acetate and nylon in both weaving and knitting yarns. Yarns as fine as 50s have been spun but a decrease in spinning efficiency has been noticed when the yarn count is finer than 36s.

Blends with wool, rayon and nylon have been processed on the woolen system. No difficulty has been met with in mixing, carding or spinning. Yarns have been both frame and mule spun. The finest yarn made was seven run.

Vicara is obtainable in tow form for use in tow-to-top machines. Experiments have been carried out and are continuing on several types. Very fine, even yarns have been

made by breaking the tow and drafting it in three to five subsequent drawings. These yarns have consisted of 100 per cent Vicara, and blends with wool, viscose and nylon. Single 30s, cotton count, have been made.

Very good spinning properties on all systems have been per cent Vicara, some static has been encountered but this has been easily overcome by treating with conventional oils and anti-statics. In blends the static problem is less apparent. No change in machine settings is necessary except an occasional adjustment which is relative to every new mill run. In cases, Vicara aided spinning efficiency.

Many types of fabrics have been knitted and woven. These fabrics have been tested and have shown good wearing qualities, excellent drape, resistance to crease, and resistance to yarn slippage. The draping quality and resistance to crease, points to the use of Vicara in blends to be used for Summer suiting fabrics. Based on the properties of Vicara, its performance in finished goods, and economic factors, we believe that Vicara will be used primarily in the following goods: women's dress goods, women's suiting, men's suiting, sports clothes, infants' wear, knit goods, hosiery, upholstery and novelty fabrics.

Vicara is produced from a uniform raw material that is abundant and grown in the United States and not subject to wide fluctuations. Vicara is in its early stage. Much development and promotion is in the future and we hope that many in this group will be instrumental in bringing the fiber to a more complete usage.

Miss Wildermuth's paper was presented before the April 6 meeting of the American Association of Textile Technologists in New York City.

A *New*



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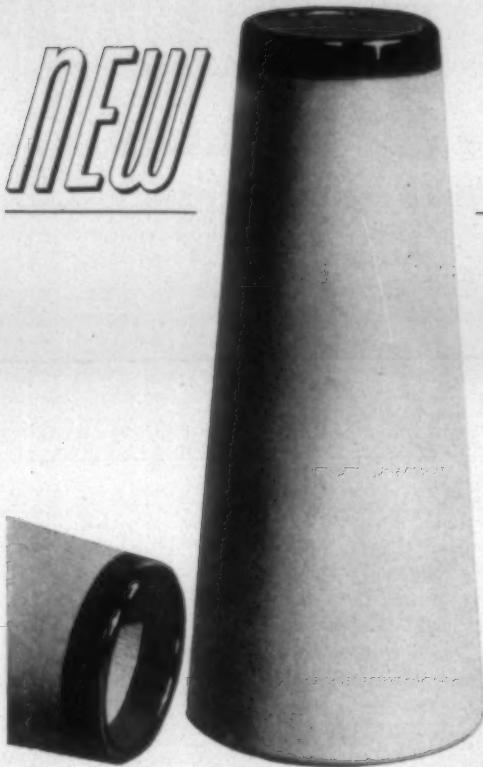
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By ROBERT Z. WALKER

Part Eleven — Pickers (Calender Section)

PRIOR to the time that the stock is handled by the calender section of the picker it has not been efficiently or uniformly packaged for further processing. During this period, ranging from the opening of the bale to the passage of the stock through the picker, the mass of fiber has been handled more or less loosely in form. During this period there has not been any way to accurately check upon evenness by observing the regularity of flow through the opening line. However, the calender section of the picker compresses the sheet of stock and winds it into a package, or lap, which can be readily transported manually and which can be examined closely and analyzed for defects, either in weight or evenness, occurring during the opening and picking process.

The stock from the finisher beater is collected on the screen section in the form of a fluffy sheet. This sheet is then stripped by a set of draw rolls from the screen section and is carried forward to the calender section, whose main function is to form it into a compressed lap having a certain, predetermined length.

The stock travels from the draw rolls over a feed plate, which is a smooth flat steel plate, to the calender rolls which compress the sheet. One of the causes of uneven yarn, or more directly, uneven sliver, is the tendency of a lap to split at the back of the back of the card. The picker lap is fed into the card and unrolled very slowly and it is during this unrolling of the lap that it will split, causing the feed into the card to be heavy and then light as the bunches progress forward. Lap splitting is the direct result of the failure of the fibers to adhere to each other properly, and results in bunches from one layer of the lap catching and sticking to the layer above it. To prevent this defect a split lap preventer is inserted between the feed plate and the calender rolls, so that the sheet of stock is dragged over it during passage to the rolls. The split lap preventer is made up of a number of steel fingers extending up and forward at about a 20° angle and spaced approximately two inches apart. As the sheet of stock is dragged over these fingers they pull or retard the fibers directly over them; this pulling effect slightly tangles the fibers with those around them and aids in forming a lap which will be more unified and less liable to separate.

When certain fibers are processed, particularly those synthetic fibers which are very smooth and do not have a high coefficient of inter-fiber friction, it is sometimes necessary to install a supplementary split lap preventer. When this is done the second preventer is positioned to rest on the top of the sheet of stock and to bind the fibers on the other side of the lap. In this way both sides of the lap are han-

dled so that the tendency for the lap to split is greatly reduced.

There are other causes for the splitting of lap, other than the failure of the split lap preventer to bind the fibers together completely. The dampers of the screens of the finisher section may be improperly adjusted and a poor distribution of stock made. The distribution at the screen should be such that the greater part of the sheeting is collected on the top screen, and this collection should be even from one side of the screen to the other. Laps will also split more frequently if there is too high a percentage of re-worked stock, as reworked fibers are generally weakened and more apt to be broken due to the comparatively harsh treatment they have received. Other factors which may cause split laps are too much pressure on the brake shoe of the calender section, insufficient pressure on the calender rolls, or failure to remove the lap from the picker after the picker has knocked off, or completed the full lap.

After passing over the split lap preventer the sheet of stock is compressed between the calender rolls, passed forward under a press roll, and then wound on a lap roll by means of frictional contact with two calender rolls. Most modern pickers are equipped with four calender rolls arranged vertically and weighted for compression of the stock. When four calender rolls are employed in the construction of the picker they are built with the top roll recessed at the ends, the second flanged, the third recessed, and the fourth or bottom roll flanged. All of these calender rolls are smooth surfaced, that is, without fluting or grooving. The sheet of stock is taken through the nip of the top and second rolls, around the back of the third, between the nip of the third and bottom roll, and then forward to the two calender rolls upon which the lap rests while being wound upon the lap roll. The top three calender rolls are approximately five inches in diameter and rest upon the stronger $7\frac{1}{8}$ inches diameter bottom roll. The reason for the flanging and recessing of the rolls at their extremities is that this provides a wall at each end of the rolls to prevent the selvages of the lap from spreading out past the ends. It should be noted that the flanges do not ride in the bottom of the recesses of the other rolls and therefore do not prevent the application of the proper pressure on the rolls.

There is a tremendous pressure applied to the rolls, as fiber is fluffy and is not readily compressed into a thin sheet. The pressure is controlled by two weights and levers and will range from $1\frac{1}{2}$ to two tons, dependent upon the position of the weight on the lever. The rolls are held in place in such a manner that they are free to move in a vertical plane and to maintain contact with each other, and

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the weighting is applied to the system of rolls as a unit. There is one lever at each side of the calender; these levers are pivoted behind the top calender rolls and rest or apply pressure at the bearing of this roll with the pressure applied to the top roll transmitted to the rolls beneath it. The front ends of the levers are connected by a vertical shaft to the weight levers, or the levers supporting the weights. These levers are curved and pivoted in such a manner that the connecting rod from the upper lever is attached at the end of the lower lever, but in back of the pivot point. The lever then curves forward to the pivot and then curves again back to form a long straight lever, so that the lever is curved forward and down to form a half circle at its front end and then straightens out to make a long straight lever extending back for several feet. The length of the straight section, with a heavy weight quite far back on this length, together with the curvature and position of the pivot point, combine to exert the high pressure necessary for correct compression.

If a particularly heavy sheeting passes through the calender rolls, if there is a choke, or if a large clump of stock makes up and then is taken into the nip of the calender rolls, the pressure could very easily be increased so excessively that damage to the picker could occur, in the form of a broken picker side or calender roll bearing. In order to prevent damage to the picker the weighting system is provided with a safety knock-off motion which will stop the machine before excessive pressure can be built up.

The operation of the safety knock-off motion is based upon the fact that excessive pressure will be caused by the passage of too thick a clump of stock passing through the calender rolls, which would tend to raise the calender rolls up against the resistance of the weight lever. As excessive pressure begins to build up the weight lever moves, and moves along with it an auxiliary shaft that is attached, causing the auxiliary shaft or safety knock-off lever to contact the small counterweight that is part of the full-lap knock-off motion. The pressure on the counterweight forces the knock-off motion to drop out of operating position and the picker is stopped immediately.

In many instances of unsatisfactory performance it has been found that there has not been enough attention paid

to the adjustment of the weights on the levers. The weights are close to the floor and there have been mills which were running their pickers with the weights resting on the floor for a portion of the time during the building up of a lap. Either one or both of the weights have been found to be touching the floor. These weights should be adjusted to give equal pressure on both sides of the lap, and therefore they should be spaced on the weight bars the same distance on both sides. Special care should be taken in making sure that there is not some obstruction, such as an extra knock-off gear, which has been pushed close to the picker and which is supporting the weight. The weights should be positioned on the levers to produce equal pressure on each side and further, at a distance which will result in a pressure that is sufficient to compress or calender the loose sheet and to cause cohesion between the fibers, but not so great that the fibers will become felted or which will cause these parts of the picker to wear out unduly rapidly.

The lap is first calendered by the four calender rolls and then passed forward under a press roll to the two calender rolls. These calender rolls are generally nine inches in diameter and are grooved longitudinally for better gripping power. The press roll and the lap of stock are both driven by these calender rolls through frictional contact. In starting a lap the stock is brought forward and partially wrapped manually around a lap roll, which is a strong steel shaft. In some mills the lap is made directly on the steel while in others, depending upon the fiber being processed, it is the practice to wind the lap upon a cardboard roll which just fits over the steel lap roll. In either case the steel lap roll is withdrawn from the full lap when it is doffed from the picker.

In order to make a package of stock which is long enough to process profitably, that is without too frequent replenishing of the supply in back of the card, the lap must be wound on the lap roll under sufficient compression. This compression is obtained by weighting the ends of the lap roll, although the problem in this case is more difficult than with the calender rolls due to the fact that the lap is continuously increasing in diameter as the stock is wound upon it. There must be means to maintain sufficient pressure upon the lap roll during the formation of the lap, there must be means provided to allow for the increasing diameter of the lap as it builds up, there must be a safety device to prevent the formation of excessive pressure, the pressure on the lap must be adjustable, and, most important, the pressure on the lap must be constant from the beginning of the lap to the completion.

The lap roll is held down by a lap head block resting on the roll at each end, and it is through these lap head blocks that the pressure is transmitted to the lap roll and the lap itself. At the point of contact between the lap roll and the block, the block is provided with two rollers so that there will not be any friction to drag on the roll or create undue wear. The block is an integral part of a rack which is in mesh with a gear keyed to a brake shaft. The brake assembly is the unit which resists the tendency of the lap to force the racks upward and therefore it provides the means for applying pressure on to the lap.

A gear train in the middle of the shaft is connected to the brake drum, and the drum itself is driven by a gear which is equipped with a friction release. The pressure on the brake drum is applied and regulated by means of a weight



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on an extended lever, with the section of the lever touching the brake drum covered with leather. Special care should be taken of the leather on this lever, as any sticking or drag of the drum on the leather will produce laps which vary from one end to the other, such as being heavy on the outside and light on the inside next to the lap roll. For this reason the leather should be kept clean, free from oil and grease, and soft and pliable. There have been cases in which the mill has applied powdered graphite to the leather in an effort to allow free movement of the drum but this generally results in grease and graphite becoming mixed together to form a sluggish sticky mixture that will cause defective operation of the brake assembly. The leather should be kept trimmed, and when worn, should be replaced. The copper rivets holding the leather to the lever should be kept well countersunk to prevent scoring the brake drum.

The weight on the brake lever should be adjusted so that there is enough pressure to form a good dense and compact lap. If too much pressure is used it may cause considerable unevenness in the lap. Extremely high pressure should be avoided as it causes unnecessary wear on the roller bearings in the lap head and on the lap roll, and may possibly bend or break the roll.

The drum is driven by a gear (as shown at *A* in accompanying illustration) which is part of a friction release provided to prevent damage to the racks or head-blocks, should the pressure become too great. The gear *A* has a very wide flange projecting out on one side, and this flange is machined with two tapered holes in it. A bracket *C* is held fast to the flange by the projection of two tapered spring plungers which fit into the two tapered holes in the gear flange, in such a manner that under normal pressure the bracket turns the flange. The bracket, in turn, is driven by a cross bar *E* secured firmly to the rack shaft *B*. Movement of the lap roll upward, caused by the increase in diameter of the lap as it builds up, is therefore transmitted from the rack to the rack shaft and then, through the cross bar to the bracket and gear flange, to the drum. The movement of the drum is resisted by the brake and in this manner suffi-

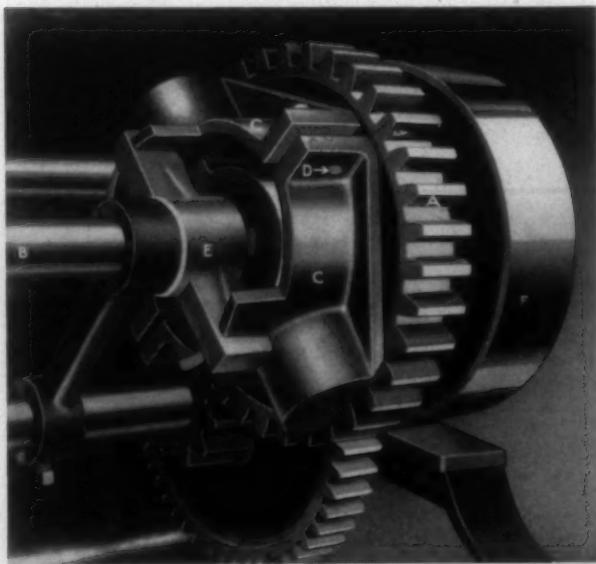
cient pressure is built up to enable compressing a lap of sufficient length into a package which is small enough to be handled economically and easily. If, for any reason, the pressure on the lap becomes too heavy the two plungers holding the bracket to the gear flange will slip out of the machined recesses in the flange and the racks will rise freely without applying any pressure on the lap.

The pressure on the lap is not constant as it builds up, but instead, increases up to a certain point, is partially relieved, and commences to build up again. This is due to the manner which the compression is gained, for the increase in the diameter of the lap must be made against the resistance of the block heads, the racks, and the brake drum. The weight on the lever which brakes against the drum is adjusted so that when a certain force is applied, which must be adjusted to suit the local conditions, the drum revolves enough to permit movement of the gear flange and rack shaft. This movement is just enough to allow the rack to move up one tooth, after which the relief of the pressure is stopped and then begins to build up again.

In order to facilitate the doffing of the picker, and the start of a new lap, the brake lever is built with an extension jutting forward and terminating in a foot pedal. There is also a handwheel geared to the racks so that the racks and the lap head blocks can be raised or lowered quickly and easily. A ratchet and pawl arrangement locks the racks and prevents them from lowering until a foot pedal connected to the pawl is pressed. When a full lap is produced, doffing is accomplished by releasing the pressure on the lap racks through stepping on the brake lever; this releases all of the pressure on the lap racks and the lap roll and lap. The rack is wound to its highest point and the full lap removed while the ratchet and pawl hold the racks up to their highest position. When the empty lap roll is inserted on top of the two calender rolls and the new lap started, the foot release on the pawl is stepped on and the hand wheel is used to bring the head blocks down to rest on the lap roll. The release of the foot lever of the weight lever allows the friction plate of this lever to bear against the brake drum and pressure commences to build up for compression of the lap.

The length of a full lap is controlled by setting a full-lap measuring motion, which is essentially a short gear train based on the hunting tooth measuring motion. The two gears of this measuring device are a change gear and a gear having a number of teeth, the number being a prime number. An example of this is a picker which is built with the gear in question being a 53-tooth gear, 53 being a prime number and not divisible evenly by any number between 53 and 1. The size of the change gear depends upon the length of lap desired, which may range from 35 to 65 yards. In this particular model of picker, the measuring motion is geared up so that each tooth of the change gear changes the length of the lap one yard, therefore for a 35-yard lap a 35-tooth change gear is used. The gearing is known as a hunting tooth motion, as the use of the gear having a prime number causes each tooth of the change gear to mesh with each successive tooth on the 53-tooth gear.

Both the change gear and the 53-tooth gear have secured to their sides a tooth which extends past their circumference. When a new lap is started these teeth are one tooth out of mesh and as the lap is built up these teeth are brought around until, at the time that the lap is of the



Above, gear which drives brake drum.

proper length for dosing, they are brought into mesh. As these teeth extend past the teeth of the two gears their coming into mesh forces the gears apart. The 53-tooth gear is fixed and cannot be moved but the change gear is mounted upon a lever so that the pressure between the two gears causes the gear and the lever to swing out. This lever pushes against an adjustable screw of a curved pivoted lever. The pressure on the lever, due to the curve, is exerted against the side of the main knock-off lever so that the knock-off lever is moved and the knock-off motion brought into operation to stop the machine.

The knock-off motion is made up of a large lever, called the drop lever, which supports the driving gear for the calender rolls. The lever is held in position, with the gears in mesh, by a notched hand lever pivoted so that it will fall to one side if pushed manually or by the curved lever of the measuring motion. The front of the drop lever is connected by a rod to a foot lever so that stepping on the lever will bring the drop lever to the operating position without the use of the operator's hands. A connecting rod on this foot lever is utilized to apply pressure on the weight lever so that pressing on this one lever relieves pressure on the lap racks and brings the drop lever to the starting position.

The back of the drop lever is connected by another rod to a switch in such a manner that the dropping of the lever activates the switch. This switch stops the feed of stock to the picker, and activates the entire electrical control feed system extending throughout the opening line.

For some time there has been a considerable controversy over the weight of the lap which will aid in spinning the highest quality yarn. There are two schools of thought, with the more radical taking the stand that our present laps are too light and advocating laps weighing from 16 to 18 ounces per yard, or heavier. The reasons for the support of this theory are said to be that a heavier lap is easier to sheet evenly, that it is easier to hold firmly at the feed roll of the card so that the unevenness resulting from plucking bunches into the card will be reduced, and that the slowness of the feed into the card permits more efficient and thorough cleaning of the fringe of the lap by the lickerin of the card. The technicians who are in favor of the use of heavier laps assert that, as the lap is not an end product, its appearance is purely academic. It is also claimed that the evenness of the lap is not of real practical importance for, with the high draft attained at the card, variations in the lap will be hard to detect in the card sliver. Further, the amount of doubling and drafting which is performed at the drawing frames, the roving frame and the spinning frame will have acted to absorb and nullify the variations which existed in the picker lap, for all practical purposes.

Notwithstanding these arguments the vast majority of mills are still continuing to run their pickers, and are still getting good results, using light laps. Laps in this category range in weight from 13 to 15 ounces per yard. Laps of these weights contain enough bulk so that there is adequate and excellent coverage on the screen sections and it is possible to obtain a good ratio between air volume and stock without running the fans at excessive speeds. With laps of 14 or 15 ounces there is sufficient mass to actuate the evener pedals quickly and a high efficiency of the evener motion is achieved. At the same time, the bulk of the sheeting is not so great that it allows heavy impurities to become buried in clumps of fiber and to pass forward

through the picker. There is still enough mass to allow good carding and it is possible to make laps which are well calendered, free from holes and lumps, and with straight and even selvages. Certainly, the production of a lap which is well formed, smooth, and even, and therefore does not have excessive variations, will produce yarn which is as even as, if not more even, than yarn made from sliver having the variations in it resulting from a heavy, uneven lap.

Laps should be weighed as they are taken from the picker, and a record of this weight kept. Most mills set up a standard and all laps which are outside the maximum allowable limits of weight variation are sent back to the opening room for reprocessing. This weight is the weight of the entire lap and the limits must be set up in accordance with the mills' particular requirements, although generally an allowance of one-fourth of a pound of either light or heavy is accepted.

It is also general practice to check at least one lap a day from each picker for variation in the weight per yard of the lap. Each lap is weighed a yard at a time and the weight of each yard recorded, the total variation per yard and the average variation per yard are computed. The lap is usually rejected if the average variation per yard is over from one-half to three-fourths of an ounce, depending again upon local conditions.

Density, fiber distribution, selvage formation, and general appearance can be checked by holding the lap up against a light or window and unrolling it. The light showing through enables these factors to be checked so that corrections and adjustments of the picker can be made, such as the dampers of the screen sections.

In order to be able to check the quality, both appearance and weight, of the picker lap there has been developed the picker lap meter. This instrument has been used in many mills and tests made on it are part of the daily routine quality check up. The lap meter is designed so that a lap can be unrolled and passed over a lighted area and then weighed from yard to yard. The sheet of stock passing over the lighted area enables the technician to examine every yard of the lap minutely and easily and to determine if the adjustments of the picker are satisfactory. Each lap is then weighed by a scale integral with the machine so that the weight can be recorded on a chart and a graph of weight variation drawn up. Defective laps may be analyzed accurately and corrective measures taken if similar irregularities appear on subsequent tests. While the machine does not reveal any more features of the lap than does the method of unrolling the lap by hand before a window and then weighing the yards of the lap individually on a scale, the accuracy of the weighing is greater and the inspection is more quickly and easily accomplished. It is only necessary for the machine to reveal a few major causes of poor laps to pay for itself in the savings in the cost of reworking the rejected laps and the increase in lap quality as reflected in higher machine efficiency in later stages of processing the stock into yarn and cloth.

Performance Data On Uster Evenness Tester

Employing electronic principles, a new yarn evenness tester which will record evenness of material as fine as 150s cotton count is being distributed in this country by Uster

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Corp. of Charlotte, N. C. Manufactured by Zellweger, Ltd., of Uster-Zurich, Switzerland, the new machine will test cotton, wool, staple fibers, flax, hemp, jute and sisal, according to George E. Archer, sales engineer of the Uster Corp. With this device, mills may follow a sample of stock through all phases of yarn manufacturing, including card sliver, comber sliver, roving and yarn. Although conventional type testers utilize mechanical methods of measuring materials, the Uster Yarn Evenness Tester incorporates the principles of electronics, using a high-frequency condenser field to determine the evenness or unevenness of the stock. Measurements are recorded on paper charts.

The accuracy of measurements by the machine are not affected by bleaching, dyeing or sizing, it is said. Blends also may be satisfactorily tested if blending is uniform. The tester is available in two types: Type A will record evenness of material 83 grains per yard of sliver up to 150s yarns, while Type B will measure sliver of 350 grains per yard to 150s.

The machine, which has six measuring fields of varying dimensions, semi-automatically selects the proper field through which the stock under test is to be guided. As the sample moves through the machine, fluctuations in the cross-section are carried electrically to recording instruments which set down the measurements on a graph. Unlike the conventional tester, the scale permits direct reading in percentage variations from the mean cross-section of the strand being tested, Mr. Archer stated.

The operator of the machine has a choice of four scales. For full-scale deflection, these scales require respectively 100, 50, 25 and 12½ per cent of variation from the mean

cross-section. Usually, Mr. Archer noted, yarns are tested on the 100 per cent scale, roving on the 50 per cent scale and sliver on the 25 per cent scale. More even material, however, permits the use of a more sensitive scale than is indicated. It is possible, he said, to use the 12½ per cent scale which provides a more easily read chart.

Selection of one of four speeds for the material tested also is permitted. These are one, two, four and eight yards per minute. The operator likewise has a choice of three speeds of the recording chart: one, two and four inches per minute. Because of this wide range of speeds of both the chart and the material, declared Mr. Archer, testing is usually accomplished in less than the accustomed time. Accuracy attained by the tester is superior, he said, due to the precision recording made possible by the incorporation of electronic methods. One demonstration of the accuracy of the Uster tester is a test of running stock repeatedly through the machine, then taking the graphs and super-imposing one chart on the other. Mr. Archer noted that the curves of both graphs "coincide very closely."

There are two methods of evaluating the test of material evenness, it was stated. One is similar to that used on the conventional tester by which the maximum variation in any one yard is determined from the chart as the average variation per yard. Mr. Archer noted, however, that the evaluation is considerably simplified by the Uster tester, since readings are taken directly from the chart in percentage figures. After the extreme variations in each yard of material is averaged, the maximum of these extremes is recorded. The percentage is read mathematically from the chart, eliminating the necessity of calculating the percentage. The second method, less frequently used, employs a planimeter, an area-measuring device. In this way is found the area under a graph curve to a base line and dividing this area into the area enclosed by the curve and a line through the mean height of the curve above this same base line.

Mr. Archer explained that the new machine has been designed so that when the correct condenser field is semi-automatically selected, the effect of moisture content is negligible. It is found that when a 0.12 per cent moisture content is experienced, the resulting error is approximately one per cent on the test results. In testing roving, Mr. Archer pointed out the advisability of finding the short and long periods by two separate measurements. The short periods are obtained from two to five yards with a material feed of one to two yards per minute, while the long period fluctuations are best charted with a test length of 50 to 100 yards and a speed of four or eight yards a minute. In like manner, he said, it is desirable to test yarns for short and long periods of variations. If it is necessary to compare yarns or roving of the same quality the difference in counts can be determined by the machine.

An interesting correlation, Mr. Archer stated, has been established between the evenness diagrams and yarn strength. Of cotton yarn tested on a tensile apparatus, he said, the points of rupture were determined in length with respect to the clamping point and entered in the evenness diagram. In the length of yarn tested, it was learned that rupture occurred at the spot with smallest cross-section of substance. The evenness chart thus furnishes data for judging the standard deviation of the strength of a yarn.

Among mills which are installing the Uster tester are: Springs Cotton Mills, West Point Mfg. Co., Avondale



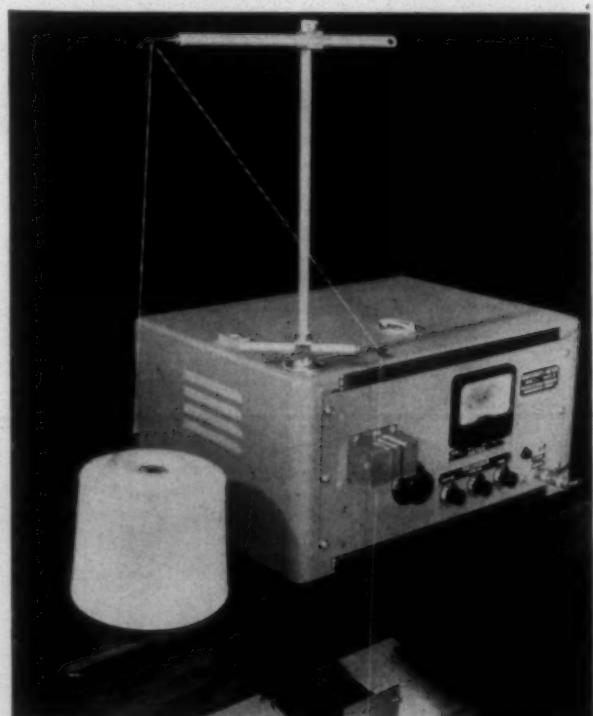
Charles H. Reynolds (right), vice-president and general superintendent of Spindale (N. C.) Mills, Inc., inspects the new Uster yarn evenness tester. It is being demonstrated by John Tillett, Jr., of Uster Corp.

Mills, American Yarn & Processing Co., American Thread Co., Riegel Textile Corp., Woodside Mills, Rex Mills, Inc., Peerless Spinning Corp., Pepperell Mfg. Co., James Lees & Sons, Abbott Worsted Mills, Argonne Worsted Co., Wamsutta Mills, Dixie Mercerizing Co., and Standard-Coosa-Thatcher Co.

Uniformity Meter Developed By I. T. T.

Development of a uniformity meter, which will find wide use in the textile manufacturing industry, has been announced by the Institute of Textile Technology at Charlottesville, Va. Perfection of the device represents many months of work on the part of institute scientists. The uniformity meter measures and makes a permanent record of the uniformity of yarn, roving, sliver or other filamentary material. It measures the material in terms of weight per unit of length. The instrument may be calibrated to operate equally well with cotton, nylon, rayon, wool and other fibers. It operates on the dielectric effect in which the material being tested passes between the plates of an electrical condenser, changing the capacity of the condenser by an amount proportional to the dielectric constant of the material and the weight of the material. The instrument is insensitive to such things as amount of twist, compactness, etc.

Speeds at which materials may be tested depend only on the speed at which the material may be run, it is declared. Roving and sliver are generally run at three or six inches per second, while yarns are run at five or ten feet per second. Yarns have been run successfully at speeds as high as 60 feet per second. The device produces a continuous graph or chart which gives an accurate profile of the degree of uniformity of the material being tested. Examination of this



This device, which accurately measures the uniformity of yarn, roving, and sliver, has been developed at the Institute of Textile Technology, Charlottesville, Va. Yarns have been run at speeds up to 60 feet per second. The uniformity meter measures the uniformity of materials in terms of weight per unit of length and makes a permanent record of the results.

record graph by a skilled operator yields valuable data as to the cause of non-uniformity whether it be in the sliver, roving or spinning stage. The machine is said to give remarkable reproducible results.

Georgia Group Discusses Carding, Spinning

A detailed discussion of the problems of carding and spinning highlighted the Spring meeting of the Textile Operating Executives of Georgia held March 19 at the Georgia Institute of Technology, Atlanta. More than 300 mill superintendents and section foremen participated in a question and answer forum on manufacture procedure. J. C. Edwards, Jr., of Exposition Cotton Mills, Atlanta, chairman of the T. O. E. G., presided at the session. B. W. Whorton of Dixie Mills, LaGrange, led the discussion on carding and H. M. Jackson of Fulton Bag & Cotton Mills, Atlanta, directed the discussion on spinning.

Boyce Mangum of the Sibley Division of Graniteville Mills, Augusta, was elected to the executive committee, succeeding R. O. Roberts of John P. King Mfg. Co., Augusta. It was announced that the group's Fall meeting would be held in the new million-dollar textile building of the Georgia Institute of Technology. T. M. Forbes, executive vice-president of the Cotton Manufacturers Association of Georgia, introduced W. M. McLaurine, a former instructor at Georgia Tech and a former secretary of the Georgia association as well as the American Cotton Manufacturers Association.

Warner & Swasey Pin Drafter Ready

The Warner & Swasey Co. pin drafting machine is now ready for the market, say officials of the Cleveland, Ohio, firm. Two additional models, which will affect further economy in increased production, have been designed—one of which is in production. The Pacific converter, developed for the purpose of blending fibers in the manufacture of yarn, is now completely designed, Warner & Swasey officials state, and the first lot has been issued to the shop for production. This entire lot has already been sold, it is reported.

Whitin Adopts SKF Bolster For Units

Spindle bolsters manufactured by SKF Industries, Inc., have been selected by Whitin Machine Works as standard equipment on all spinning frame units for which anti-friction bearings are specified. Richard H. DeMott, vice-president of the ball and roller bearing firm, said this standardization of roller bearing spindles by Whitin is the result of engineering and performance tests on numerous installations in the United States and other countries over a period of years. Bolsters are important in maintaining constant speeds in the spinning and twisting of high-quality cotton yarn since they make possible a more uniform twist and less variation in size of yarn.

Two types of spindle bolsters, whose blades and cases were developed by Whitin, will be used on spinning frames, Mr. DeMott explained. One is a cylindrical unit that has a long flat spring mounted on the bolster section contacting the case's inner surface. The spring, together with the oil

OPENING, PICKING, CARDING & SPINNING

damping of the sleeve, provides the flexibility and cushioning necessary for smooth-running operation. This type of bolster, Mr. DeMott pointed out, is especially adaptable for use where bobbin loads are well balanced. The other unit,

known as an oil cushion ring brake type of bolster, consists of a series of ring surfaces mounted in oil and a spherical head in a spherical seat at the top of the case. The bolster is held in position within the seat by spring pressure which provides the flexibility needed for unbalanced loads frequently found in wooden bobbins.

Accurate Mixing With Fiber Meters

BLENDING of fibers going to pickers is no longer done by guesswork at Marion (N. C.) Mfg. Co. It now is being done accurately with the use of three Fiber Meters, developed, patented and designed at Marion. President and Treasurer R. W. Twitty and Superintendent Therman L. Ritchie like the installation so well that plans are now going forward to hook up a second line of Fiber Meters and picker. Further plans call for the installation of one Fiber Meter line behind each of the mill's pickers, thus discarding the sandwich mix entirely. The Fiber Meter is built by Houdaille-Hershey Corp. of Buffalo, N. Y., for W. D. Dodenhoff Co. of Greenville, S. C., the distributor.

The guesswork of sandwich blending is done away with because Fiber Meter hoppers are kept nearly filled with stock from nearby bales; previously set controls on the individual Fiber Meters cause them to deliver measured amounts of stock, correctly proportioned as to type of fiber, to a conveyor belt; the belt travels at 300 feet per minute, and in turn delivers the stock to a Centrif-Air unit (used for mixing, not cleaning) and thence to the picker.

Marion's trio of feeders can handle a total of 1,450 pounds of stock per hour at full capacity. The Fiber Meters drop their individual percentages of the mix (which might be 45, 20 and 35 for a total of 100) simultaneously about every ten seconds.

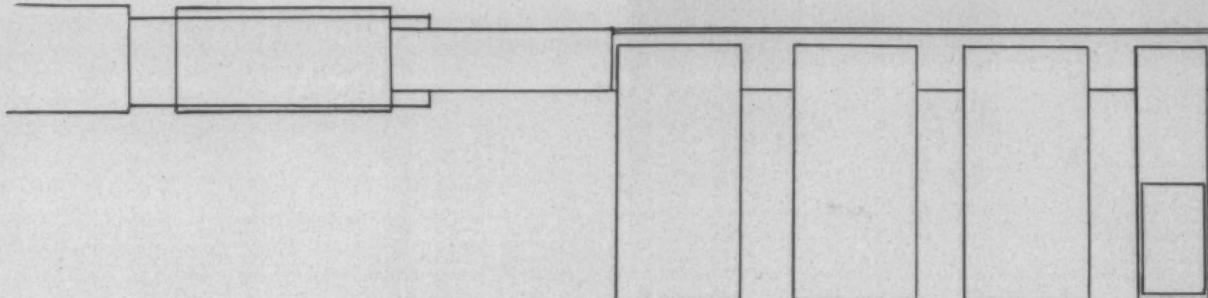
With some mixes, reworked waste is blended into a mixture from a small feeder in front of the Fiber Meters. If the waste going into the mix amounts to five per cent of the total, then the Fiber Meters are set to deliver the remaining 95 per cent in proportion. Delivery of a uniform quantity of fiber to the conveyor belt is effected through an electronic coil. When fibers have been raised by the lifting apron to full height, they then are raked into a dropping pan by a hackle comb positioned at top of the lifting apron. Elements for the mix are dropped onto the belt when the jaws of each pan are opened. The small quantities, dropped onto the belt at the same time, allow for more uniform mixes.

Marion Mfg. Co. has three Fiber Meters hooked behind one picker, but it seems possible to employ additional machines on one line and get a mix of even greater variety.

The belt-driven conveyor can be operated on a three-horsepower motor, and each Fiber Meter is equipped with a one-horsepower motor. The feeders each have three sets of switch controls: one with switches for a light in the feeder hopper and for the electronic coil; a second box switch allows both automatic and manual operation of the Fiber Meter; the third control box controls the motor which furnishes power. Simplicity of design, regular lubrication and inspection make maintenance an easy matter.



At top, the three Fiber Meters at Marion Mfg. Co., loaded with stock; below, delivery ends of the units ready to drop their portions of the mix onto belt.

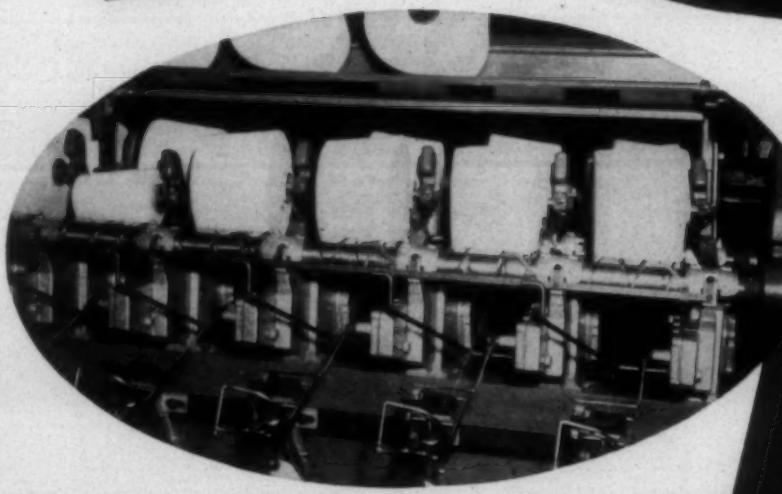


Layout of blending system now employed at Marion Mfg. Co. From right to left, waste hopper, first Fiber Meter, second Fiber Meter, third Fiber Meter, elevator, Superior cleaner, and picker.

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Company*

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This grooved roll, in addition to rotating the winding package, also traverses the yarn. Both the conventional reciprocating guide and the slip drum are eliminated, and with them, a constant hazard to yarn quality.



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In the photograph, note the cast-iron rolls recommended for spun rayon and also the combination blade-and-needle stub catchers.



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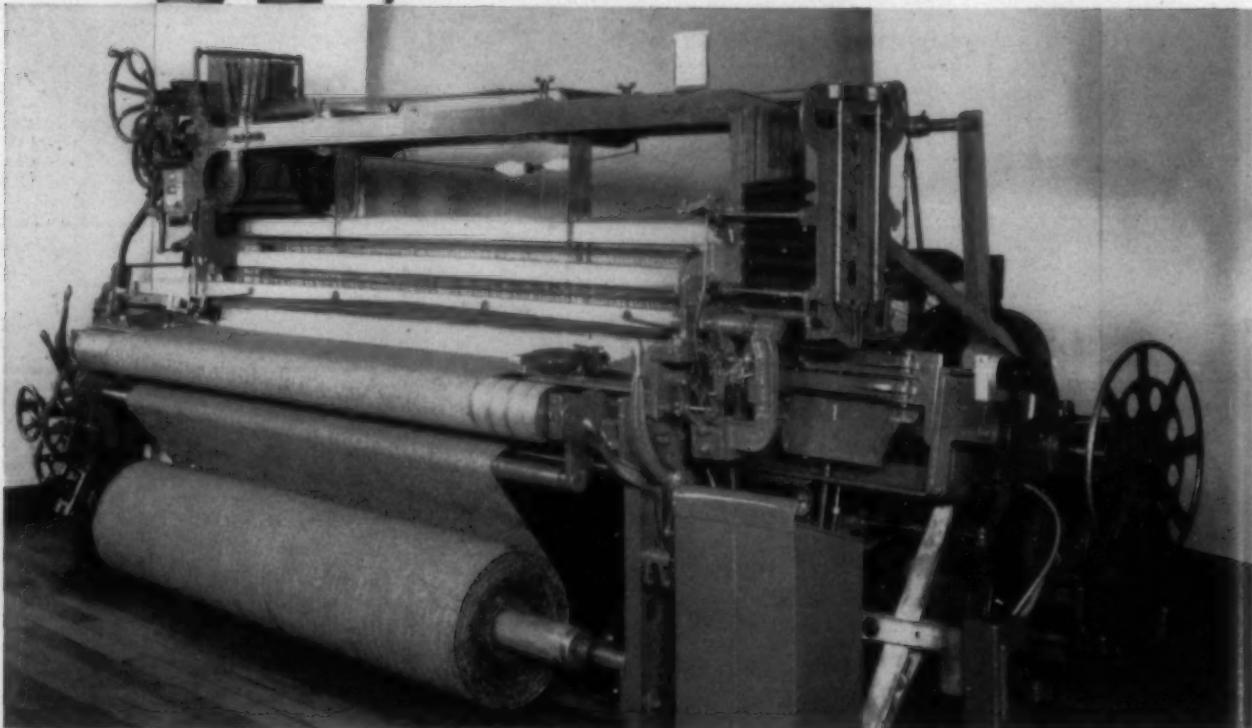
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Warp Preparation & Weaving

A Fundamental Study Of Fabric Properties

By DR. E. VERNON LEWIS, E. I. du Pont de Nemours & Co.

NOT quite three years ago, the Du Pont rayon technical division authorized a fundamental study of fabric properties. It is a privilege, which we truly appreciate, to be permitted to present our first public report of progress. We shall try to tell you, first, broadly what we are trying to do and why. Then we shall tell you something about the viewpoints and techniques which we are using. Finally, of course, we shall tell you something of our results so far and of our plans for the future.

We are attempting to improve our understanding of a number of more or less aesthetic properties of fabrics which importantly affect their acceptability in the market. We wish to learn what the factors comprising these properties are, and how the properties may be controlled by changes in the properties of the fibers used in making the fabrics, in the constructional details of the yarns and fabrics, and in the finishing treatments to which the fabrics are subjected.

This is, indeed, an extensive task, and you may well wonder why our rayon department, which makes no fabrics for sale, should be willing to underwrite the cost of any such undertaking. The reasons fall into two general groups. First, although we do not manufacture fabrics, commercially, we do make several kinds of yarn which our customers, of course, convert into fabrics. Therefore, we have a responsibility to give good technical service in connection with such problems as arise in their use of these yarns. Furthermore, we have a definite interest in the development of new and attractive fabrics to stimulate the use of our yarns. Perhaps even more important is the fact that we have constantly before us a succession of new fiber candidates in all stages of development from a sketch of a proposed new molecule to semi-works production. Our management must regularly deal with decisions as to which candidates merit further examination, and such decisions call for the fullest possible information at each stage of development. All three of these activities, that is, technical service for our going yarns, development of new fabrics, and the selection of promising new fiber candidates, would be greatly facilitated if a textile science such as we are seeking were really available.

These are immediate and practical reasons why we should sponsor such a program, but there is another reason which has been quite as consciously recognized. The rayon department and the company generally have drawn freely and profitably on the fund of publicly available information in the fields of science and technology over the years. In a very real sense, we are in debt to that fund. Such debts can only be repaid in kind, and one way of making such payments is through the results of projects such as this one.

In order to secure permission to proceed with such a program, we naturally had to give some concrete ideas as to

the form which the study would take. Now it would be very easy to expend tremendous amounts of effort in securing information contributory to a better understanding of fabrics, but to diffuse this effort over so many parts of the problem that its results would be lost. So we considered the three fields in which we expected the new information to be useful to us, and concluded that it could be particularly helpful in judging the merits of new fiber candidates. What we needed was some simple, rapid, and dependable method for determining from early small samples what contributions the candidates might make to fabrics. Therefore, we centered our program around the development of such an assay method. We believe that, given sufficiently exact and organized information, it should be possible to weave a prescribed and limited set of fabrics from the candidate yarns, determine quantitatively some key properties of these fabrics, and compare them with the properties of equivalent fabrics made from going yarns. From such a comparison, we should be able to infer whether the new fiber offered new levels or combinations of desirable properties, or was similar to some going yarn with which it would simply be in economic competition. This plan has proved its merit, for not only have we the beginning of such an assay plan, but the information and techniques required for its formulation have indeed given us a better fundamental understanding of fabrics which has been useful in our other activities, technical service and development.

How, then, have we proceeded? First, we recognized that among the properties which strongly influence the demand for a given fabric are its hand, its drape, and the several aspects of its creasing behavior. Hand and drape are properties that are discussed almost exclusively in subjective terms, and creasing behavior, including both wrinkling in use and acceptance and retention of deliberately introduced creases, is largely so discussed. Such subjective ratings make poor grist indeed for the mill of scientifically organized knowledge for two reasons. First, because they are subjective, they involve not only the true properties of the fabric under examination but also the background and present emotional state of the observer, a pair of uncertain and variable factors. You would hardly expect a man whose experience had been entirely with worsted suitings, for instance, to be a competent buyer for flat crepes and satins. Nor would you knowingly try to display the merits of your pet new fabric to a buyer who had just come from an unhappy session with his store manager. His present emotional state would certainly affect his rating of your product.

The second shortcoming of subjective ratings lies in their qualitative nature. Here, then, was the core of our problem. We had to resolve the aesthetic properties of drape, hand and creasing behavior down to their underlying physical

WARP PREPARATION & WEAVING

components. Then we had to find or develop methods of determining these objective properties quantitatively. In that way, we would be able to assign reproducible numbers to fabric properties. Then we should have to correlate these numbers in two ways. First, in order to know that we had chosen the correct numbers, we should have to establish that they did indeed bear a reasonable relation to the subjective ratings of properties ordinarily discussed. Second, we should have to determine the relation between the objective properties and the constructional and finishing details of the fabrics.

What, then, are these underlying properties and how can they be measured? Consider hand—it certainly means many things, and is actually a very complex property. But in so far as that component of hand called firmness or softness of a fabric is concerned, we must be sensing the resistance of a fabric to being bent. However you examine hand, you will certainly bend the fabric in some way, and judge the resistance it offers. This fact has led to three general classes of instruments for measuring hand which have come to our attention in the literature. In the first class, the fabric is bent in a machine and the force required to produce the bend is measured. So far as I am aware, all such instruments described in the literature fail for light fabrics, in which we are interested particularly, for one or both of two reasons. Either their force-measuring element is insufficiently sensitive, or their bending unit does not introduce a determined and analyzable bend, or both. A second class of instrument measures some other property believed to be related to the bending properties, and from which they can be inferred. Somehow, an indirect approach, however sound in principle, lacks the appeal of a direct approach when one can be found.

Such a direct approach, but quite different from those in the first class, is offered by F. T. Peirce in a paper, "The 'Handle' of Cloth as a Measurable Quantity" (*J. Text. Inst.*, 21, T377 (1930)), published while he was still at Shirley Institute. His proposal has the fascinating merit of using the fabric as its own measuring instrument—the more delicate the fabric, the more delicate the instrument. Actually, he goes back to drape as his directly measured characteristic. From applied mechanics he takes the established relation between the curve to which a cantilever beam bends under its own weight and the fundamental bending constants of the beam. These relationships have been developed classically only for small amounts of bending, whereas in fabrics we are interested in much more severe bends, so he extends the mathematical relationships required until they adequately describe the performance of thin steel strips. This leads him to the concept of bending length, which he defines as the length of a strip of material which, when supported in and projecting horizontally from the jaws of a clamp, would bend as it leaves the clamp to a curve of one unit radius. Such a number then would be a measure of draping stiffness.

Now, while it would be possible by trial and error to find the bending length by determining what projecting length of a fabric would meet the defining requirements, that would be a tedious procedure, so Peirce continued to develop the relation between the dip of the end of the fabric when supported as described, the actual length of the strip, and the bending length. This gives him a simple

method for many fabrics, but for many others, especially the lighter fabrics in which we are interested, curl and minor irregularities in the fabric reduce the reliability of this procedure, so Peirce made a further advance by developing the relation between the sag of various closed loops of fabric under their own weight and the bending length. A heart-shaped loop is particularly useful, and is the form which we have employed.

We have added to the principles proposed by Peirce some convenient equipment for carrying out the actual measurement. We provide a template carrying a series of slots into which small steel bars may be so placed that their near edges are three inches, six inches or nine inches apart. Two bars are placed in slots of the spacing desired, then a strip of fabric, conveniently an inch wide, is laid lengthwise of the template and fastened to the bars with scotch tape. The sample is then lifted from the template by means of the bars, manipulated to form the heart-shaped loop, and held in the measuring frame by inserting the ends of the bars therein. From the formula supplied by Peirce, we have developed scales which read the bending length directly. We follow his plan, normally, of making five measurements warpway and five fillingway for each sample, averaging the data for each direction. To obtain a single value to represent the over-all behavior of the fabric, the square root of the product of the two values is used.

Now the merit of the bending length concept becomes even more apparent when we return to our objective of measuring the firmness of hand of the fabric. In applied mechanics, such a property would be measured as the couple required to bend the material, in strips of unit width, to curves of unit radius. This value, which Peirce calls the flexural rigidity, is simply the product of the bending length cubed multiplied by the fabric's weight per unit area. In symbols:

$$G = wc^3$$

G = the flexural rigidity

where

ww = the weight per unit area

c = the bending length

While the mathematical development of these concepts is a bit involved, there is no reason why we should be concerned thereby. We can think of the bending length as a number related to draping in such a way that the larger the number, the more stiffly does the material drape. Similarly, the larger the flexural rigidity, the firmer the hand of the fabric. We have satisfied ourselves by trial that, for series of fabrics which do not differ too greatly in tactile characteristics, these two numbers will indeed correlate well with their corresponding subjective ratings.

Another aspect of hand is that which is sometimes described as fullness. A little preliminary study is suggesting to us that one component of this property is what may be called the bulk density of the fabric. This may be obtained by dividing the weight per unit area by the thickness, as measured, for instance, by the A. S. T. M. procedure. A fabric of high bulk density will feel thin and papery in comparison with a fabric of low bulk density. While we are sure the method will require further refinement, we offer it to you for your consideration. It has been useful to us.

Now we come to creasing behavior, under which general

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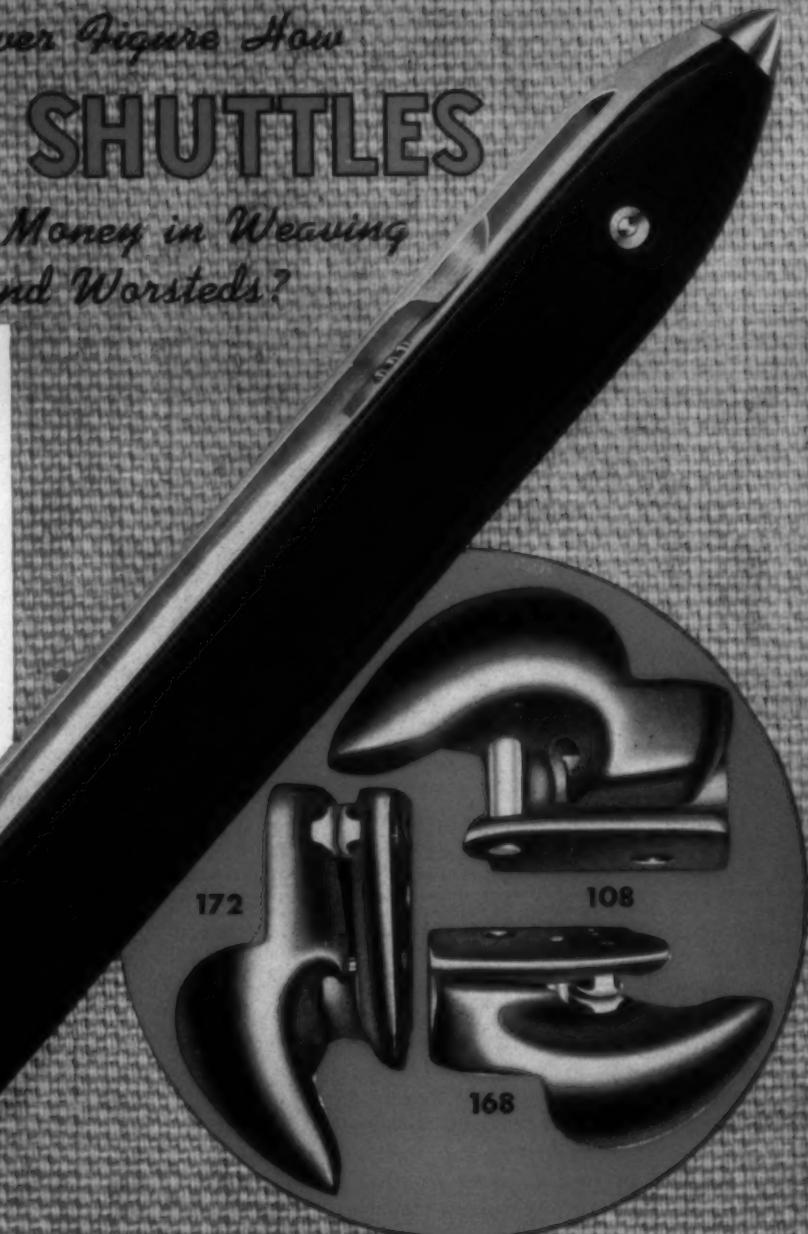
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subject we were initially interested in that aspect which concerns the resistance of the fabric to wrinkling in use. Here again the literature offers a variety of methods. One class attempts to subject the fabric to conditions which will produce a large number of wrinkles of various degrees of severity and to find some way of deducing a numerical rating of the rumpled appearance. The other class deals with single creases introduced under specified conditions and measured after specified recovery times. It seems to us that the latter class offered more chance of developing an ultimate understanding of creasing behavior, so we then had to choose the specific method to be used. Within the company, we had been using a method similar to that proposed by the Bureau of Standards (RP1077) in that the sample is creased under a prescribed weight for a prescribed time, then the degree of opening after one minute is observed. In our method, one side of the crease was held against a horizontal surface by having the creasing weight placed on it, while the other side was free. In the Bureau of Standards method, the fabric was hung at its crease over a small horizontal rod or pin. The bureau warns that the crease remaining will be affected to a small extent by the weight of the fabric, but that this effect can be corrected for by computation. Experiment disclosed that this effect was not small, as shown by a comparison of the results obtained by the two methods. In the bureau method, the weight operates to restrain the crease from opening, and low values are obtained, while in our former method, for recoveries definitely greater than 90°, the weight operates to assist the crease to open. The bureau method always gave results lower than those given by our method.

Obviously, therefore, the desirable procedure would eliminate the action of the fabric's weight, which can be done by so supporting the fabric during recovery that one side of the crease remains vertical. Then the opening will be neither aided nor opposed, and values intermediate between those yielded by the two methods previously used should be obtained. Trial showed that they were indeed. We had just worked out this method, and were using it, when the Monsanto Chemical Co. announced its instrument for doing exactly the same thing. It is very convenient to use and has a better folding device than we had thought of. For these reasons and because we both hoped the instrument would become generally adopted and we intended to make many of our own data publicly available, we immediately adopted the Monsanto instrument.

In measuring crease recovery, however, we recognize that there are at least three aspects of the property which are important. First, naturally, there is the extent to which the crease will finally recover. Second, there is the immediate recovery, and, third, there is the manner in which it proceeds from the immediate to the ultimate recovery. At the present time, we regularly observe our fabrics at 15, 30, 45, 60 and 120 seconds after release of the weight. Some experiments have continued for several hours, with a final examination the next morning. During the early phases of opening, the data can be represented quite well by the equation for a hyperbola in the form:

$$A = A_0 + t / (a + bt)$$

where

A = the included angle of the crease at time *t*.

The parameter A_0 then is an extrapolated value of the angle to which the crease opens immediately. A similarly extrapolated value for the angle to which it would finally open is $A_{\infty} = A_0 + 1/b$. The parameter, *a*, indicates whether the fabric opens rapidly or slowly from the first to the second angle. The final angle as calculated from the usual experiments does not always agree too well with that actually observed after overnight opening. However, variations in local air condition, including both humidity and velocity, and the fact that the moving arm of the tester was not adjusted during the night could easily have accounted for the discrepancies. From a practical standpoint, we feel that for good fabrics, the discrepancy will not be great because the fabric will be nearly open in two minutes, and for poorer fabrics the present results at least indicate a feature of the fabric which should be seriously considered.

So far, then, we have been describing the properties we wish to measure and the methods we have selected for measuring them. Now, what about results? As I have suggested before, we have made a number of comparisons of the results of these measurements with subjective ratings of the related properties by competent observers. We found that, within groups of broadly similar fabrics, the measurements and ratings fell into line within the limits of agreement of subjective ratings by different observers. Beyond that limit, of course, one cannot go.

With this kit of tools, then, how have we gone about the development of our proposed plant for assaying the merits of new yarn candidates? This, you may recall, was to be the guiding objective of our project. Well, we had at the laboratory a specially built loom for weaving narrow fabrics. It had shown its merit in the production of samples of fabric from modest quantities of yarn. So it seemed that our problem was to find out what fabrics to weave and how to finish them so that we should have a group of fabrics, reasonable in number, which would adequately sample the combinations of relationships between yarn properties, fabric construction, and fabric properties. From the measured properties of such a set of fabrics, in comparison with the properties of similar sets of fabrics from established yarns, we should be able to gauge the merits of the new candidates.

The selection of a finishing technique led to the development of a better understanding, on our part, of the effect of various features of finishing treatments on fabric properties. As a result of these studies, we decided that for our purposes we would examine all our samples after a relaxed boil-off, with no ironing or other such treatment. For the purpose, we place the samples between layers of cheesecloth wrapped around a perforated plate which can be immersed in our boil-off tank. In this way, the fabric is free to shrink but does not wrinkle.

Under these conditions, then, using nylon yarns, we proceeded to study quantitatively the relation between the type of weave and certain construction details and the final fabric properties. In our first series of experiments, we used a 40-denier, 13-filament, $7\frac{1}{2}$ Z-twist yarn for all warps. We made taffetas and twills with 135 and 120 ends per inch and satins with 265 and 135 ends per inch. In the fillings, we used 40-13 and 70-23 yarns, each at one-half and $7\frac{1}{2}$ -turns twist, and we determined for each combination of other factors and fixed condition of the basic loom adjustments, the maximum number of picks we could weave. We then

prepared samples with 100, 90 and 80 per cent of that number of picks. The maximum pick set was then produced with equivalent one denier-per-filament yarns, in order to demonstrate the effect of filament denier.

The quantitative analysis of these data has been most instructive for us, for it has let us put some numbers on ideas which had, I am sure, been qualitatively sensed by people skilled in the art of fabric manufacture. For instance, in a taffeta we have the greatest possible degree of intimate contact between warp and filling yarns. We might expect that the relation between the constructional details and fabric properties would be more pronounced in taffetas than in the other weaves. This proved to be the case. For the three denier-per-filament fabrics, the end count, pick count, filling denier, and filling twist all had a demonstrable effect on the final properties. Not only that, but the level of each variable would influence the effect of changes in the level of the others in a complex but, let me emphasize, also a decipherable manner. The numerical expression of the properties permitted us to do the unscrambling to a degree which would have been unthinkable with only qualitative descriptions.

The twills, on the other hand, were much less affected by variations in construction details, and fairly simple expressions involving only part of the variables quite well correlated their properties with their construction details. The satins fell, as might be expected, in a sort of middle ground. While the satin is, after all, a form of twill, it is essentially so broken up in structure that one uses many more ends and picks to secure a fabric which has some of the characteristics of a twill and some of a taffeta. This is reflected in the nature of the correlating equations.

Further considerations of these findings made it appear reasonable that the taffetas would display particularly well the effect of surface properties of fibers on fabric properties, since it must be these surface properties which contribute greatly to the degree of coaction of the warp and filling yarns in this weave. Of course, the fundamental properties of the mass of the fiber also contribute. In the twills, however, the condition would seem to be reversed. Here the properties of the mass of the fiber appear to be controlling, while the surface properties enter to but a secondary extent. The satins, in addition to forming a middle ground, also, by throwing one set of yarns largely to the surface, will certainly offer the best form for the examination of tactile properties, for which we have not yet adopted quantitative methods.

Those ideas, then, have governed our selection of the limited set of constructions to be used in our assay plan for new fibers. We propose the use of taffetas to bring out surface property contributions, twills to emphasize internal property contributions, and satins to form a sort of average and to display tactile effects. These fabrics will be woven with end counts equivalent to the higher counts used in the study I just described, but with adjustments for yarn density and available denier. Into each of these fabrics, we enter the maximum and 80 per cent of the maximum number of picks. We weave these fabrics at a filament denier in the vicinity of three, then weave the maximum set in a different filament denier, lower when possible. We are weaving such sets from going commercial yarns, including silk, viscose and acetate rayon, and nylons. We shall use our nylon data to interpolate the properties of nylon fabrics

with constructions like those of the other fabrics, and will be able then to tabulate these properties for each fabric as so many per cent higher or lower than nylon.

For the going yarns, we can annex information as to the textile uses in which each fiber is highly successful, moderately successful, and unsuccessful and, in subjective terms, why. Our objective measurements should go along with these subjective reasons. Then when we have a new candidate come along, we can make up a set of such fabrics from it and test them. We shall be able then to see where it fits into the field. Will it be essentially a duplicate of some existing fiber, and have to compete chiefly on a price basis, or has it some new and different combination or level of properties, representing a distinct contribution to textiles? If it has, what fabrics, in the next stage of development, will best display this contribution?

While we have not yet fully rounded out the information for our basic lattice, we have already put the principle into effective practice in the exploration of the merits of one new candidate, in a manner which displays the principle. Our standard set of fabrics showed that the candidate contributed firmer fabrics than nylon, both as to drape and hand, with more fullness, and that these properties were particularly apparent in twills and satins. These findings were all consistent with our hopes, by the way. Our trade experience suggested that these facts should find interesting use in a lingerie satin. Larger size tests have shown just such differences in fabric character. The utility of this test is apparent when you realize that the standard constructions were prepared with but a few ounces of yarn, and were finished and tested in a relatively short time entirely within our own laboratory. This small volume of material and short period of time appears soundly to have directed the use of the larger amount of material and time in the next stage of development so that the results from the first broadloom weaving strikingly portrayed the merits of the candidate in question.

Now what of the future? We shall continue to round out our basic lattice of information with respect to continuous filament yarns. We have already secured yarns for a study of the much more intricate set of construction variables in fabrics made from spun yarns, after which we shall formulate a similar assay plan for such fabrics. From time to time we have been using our techniques to assist our technical service and development people with their problems. From the fact that they are now often coming to us to ask for help, we infer that they find the results useful. We shall have to sharpen our tools, and add others. Some of these problems we already see ahead; others will become apparent.

Well, what have we been saying? First, that both to assist us in our own work and to help make some return on our debt to the fund of general information, we have undertaken a study of the fundamentals underlying a number of fabric properties and their relation to yarn properties and fabric construction details. We have built this study around the development of a plan for assaying new fiber-candidates, which plan has been fairly well blocked out. We have mentioned our plans for the future.

Let me say just two things in closing. First, we do not want you to think of the work that we have discussed as by any means a completed and polished piece of research. We have tried to give you today's picture of our thinking and

WARP PREPARATION & WEAVING

status on a continuing task, and tomorrow, next week, and next year we hope to be wiser than we are today. Second, we certainly do not wish to follow the old-time practice of pre-empting the field. We sincerely hope that some of you may be interested in picking up these techniques and viewpoints and applying them to your own problems. If you do, and could use more details from us, in so far as we have them and time permits we shall be glad to supply them. If you also feel moved to make some return on your debt to this same fund of general information by making public such parts of your results as are not too private, we can certainly hope that American textile technology will be definitely advanced.

TABLE I
CREASE RECOVERY BY THREE METHODS

Method	Sample	A	B	C
		Crease Angle in Degrees		
	1	169	105	146
	2	167	105	142
	3	164	107	140
	4	176	124	146
	5	172	128	163
	6	166	124	155
	7	163	127	157
	8	138	97	124
Mean		164.4	114.6	142.1
Method A.	One side of crease held in contact with table top during opening phase.			
Method B.	Crease supported on horizontal pin during opening phase.			
Method C.	One side of crease kept vertical throughout opening phase.			

Dr. Lewis delivered his remarks at the February meeting of the American Association of Textile Technologists in New York City.

Revision Of R-74-30 Is Submitted

A revision of simplified practice recommendation R74-30, hospital and institutional cotton textiles, proposed by the committee on purchasing, simplification and standardization of the American Hospital Association, and approved by the standing committee, has been submitted to producers, distributors, users, and other interests for acceptance and comment, according to an announcement by the Commodity Standards Division of the National Bureau of Standards. This recommendation lists the standard sizes for various kinds of cotton textiles, such as sheets, pillowcases, pads, towels, etc., used in hospitals and institutions. It was first issued in 1927 and reaffirmed in 1928. It was revised the first time in 1930, and that issue was reaffirmed in 1935.

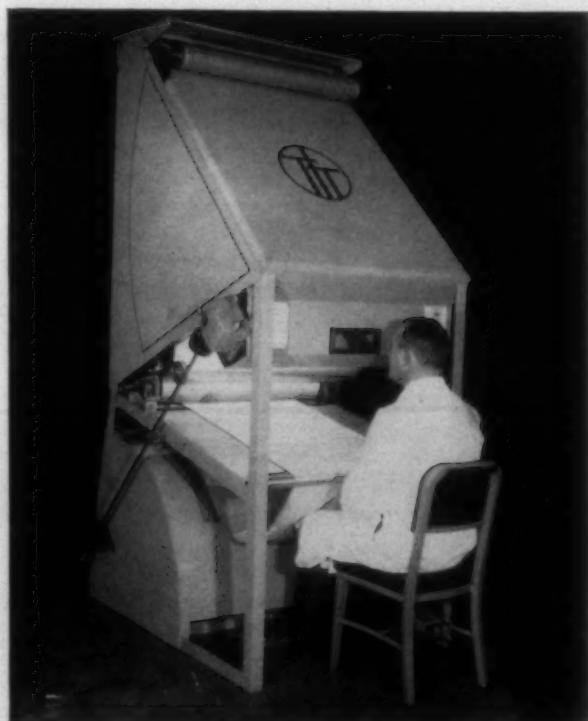
The current revision provides for changes in the sizes of certain items. A change of major importance is the reduction in width of hems on sheets from two inches at each end to one inch. The committee is of the opinion that this change will result in longer wear being obtainable when sheets have to be rehemmed due to damage in laundering.

The Warner & Swasey Co., in its 1948 report to shareholders, reports that it invested \$1,220,943 in new equipment and facilities during the year, a large part of which represents equipment needed for production of the company's new Sulzer weaving machine, which the company expects will achieve for itself an important place in the textile industry.

Cloth Inspection Machine Developed

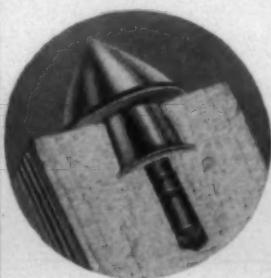
The Institute of Textile Technology, Charlottesville, Va., announces the development of a cloth inspection machine which incorporates a new system which permits an inspector to view a stationary image of rapidly moving cloth, thus reducing eye fatigue and increasing efficiency. The development of the cloth inspection machine was undertaken after a study revealed the serious limitations of present methods of inspecting fabrics.

When an inspector is viewing cloth in the usual manner, his or her eyes must be moving constantly to follow the movement of the fabric. This, of course produces an abnormal amount of eye fatigue which in turn lessens the efficiency of the operator. In developing a machine that would appear to make the cloth stand still and thus lessen eye fatigue, institute scientists tried four different methods of achieving this before it was decided to construct a machine using an oscillating mirror which would track a section of cloth, flick quickly back to its original position and track the next section, thus creating the illusion that the cloth was remaining stationary. The mirror operates at such speeds that the eye is unable to detect any break in the image. Even though the cloth may be moving as fast as 60 yards per minute, the material appears to be standing perfectly still before the operator's eyes and he or she can readily spot defects that would have escaped observation under the old system of unaided visual inspection. The machine is so synchronized that when the inspector sees a defect, he need only to stop the machine and the bad place in the fabric will be before him on the burling table. Officials of textile plants where the cloth machine has been undergoing actual mill trials have given highly favorable reports on its performance.



An approved means of inspecting cloth, which should find wide use in the textile industry, has been developed at the Institute of Textile Technology, Charlottesville, Va. This machine presents to the operator a stationary image of rapidly-moving fabric, thus greatly reducing eye fatigue and increasing efficiency.

**Leading
Shuttle
Improvements
come from
WATSON-
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The new and exclusive Locking-Tip Sleeve (pictured here) which anchors shuttle tips forever is one of Watson-Williams' latest and most outstanding shuttle improvements, now available on all Watson-Williams shuttles for wool, worsted, cotton and silk weaving. Four others have already made names for themselves—the Reverse Wind Rayon Shuttle (S7X Tension Eye); the C1-41 Eye which accelerates threading and keeps thread in place; the Two-in-One Shuttle, which allows quick interchanging of eyes; the Low Thread Groove Shuttle which eliminates jerk-ins, smutted and rubbed filling.

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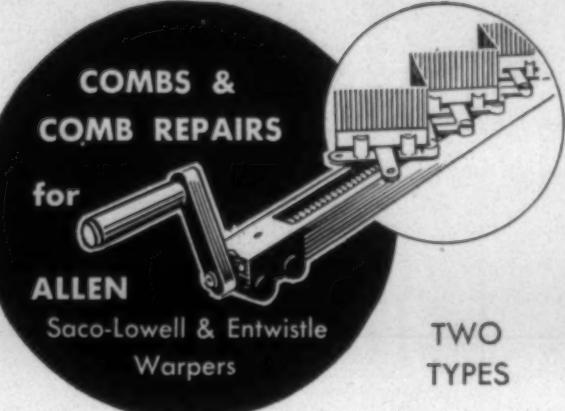
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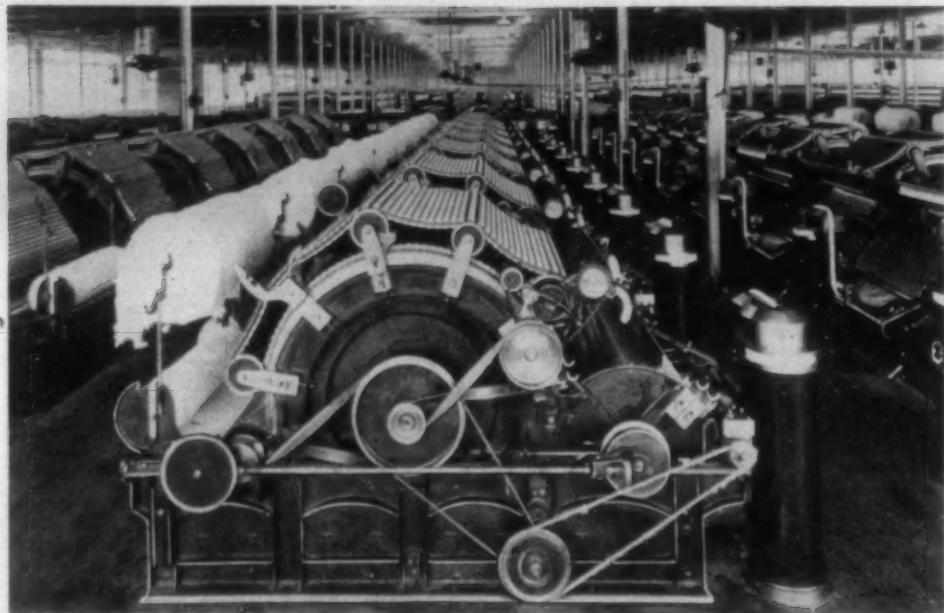


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Maintenance & Engineering

Modernizing An Old Mill Power System

Part One of a Series by JAMES T. MEADOR

THE modernization of an old cotton mill to accommodate a whole layout of new machinery through spooling and warping is the problem facing George Lewis, master mechanic of Limestone Mfg. Co. at Gaffney, S. C., with two plants under his wing. The plant under discussion at this time is his Number 1, or, the original Limestone mill, and of two-story, brick-type construction.

The mill is now arranged in such a manner that the flow of production begins in the opening room located in a large Quonset type building located some distance from the lower end of the main building, from where the cotton is moved on to the picker room by means of the usual blow-pipe or pneumatic system.

The picker room is located on the second floor at the lower end, and consists of two two-section units, all driven by a large motor with belted, group-drive arrangement. There are a couple of smaller group drive motors for the fans and condensers, also, for the waste machine, etc. The cards, draw-frames, slubbers, speeders, spinning, spooling and warping occupy the rest of the whole second floor, with very little space to spare. At the present moment, the old elevator which was located exactly in the middle of the building is being removed.

The other processes involved in fabric production, such as slashing, weaving and the cloth room operation and shipping department occupy the whole first floor. The machinery on this whole floor is to remain intact in its arrangement and location in the forthcoming upheaval to provide for the new machinery to be installed on the second floor.

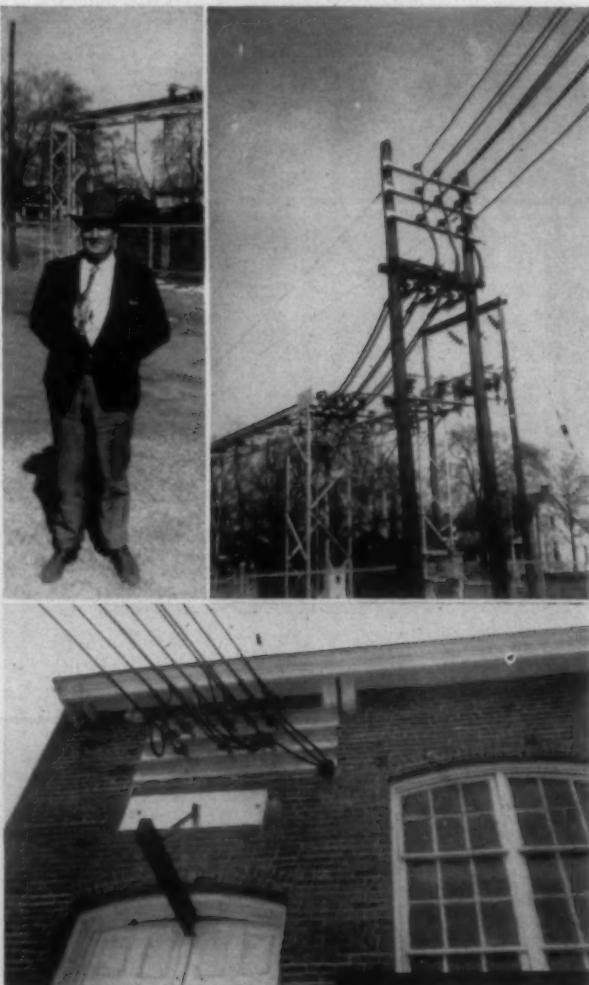
Both floors of the mill are adequately and excellently lighted by means of continuous-row, double 40-watt fluorescent fixtures running from wall to wall, and makes a nice-looking job, even though we have strongly advocated the use of larger, double 85-watt (formerly the double 100-watt) fixtures on higher mounting levels.

Each lighting panel or switch group has been provided with its individual step-down, dry-type transformer, rated at whatever K. V. A. is required, 600 volts primary to 120-240 volts secondary, and approved by their insurance carriers for use inside the mill. Such an arrangement eliminates the possibility of excessive voltage-drop on the lighting circuits, while at the same time it simplifies maintenance and reduces the labor and expense of an electrician's time in keeping up repairs on such a large lighting system.

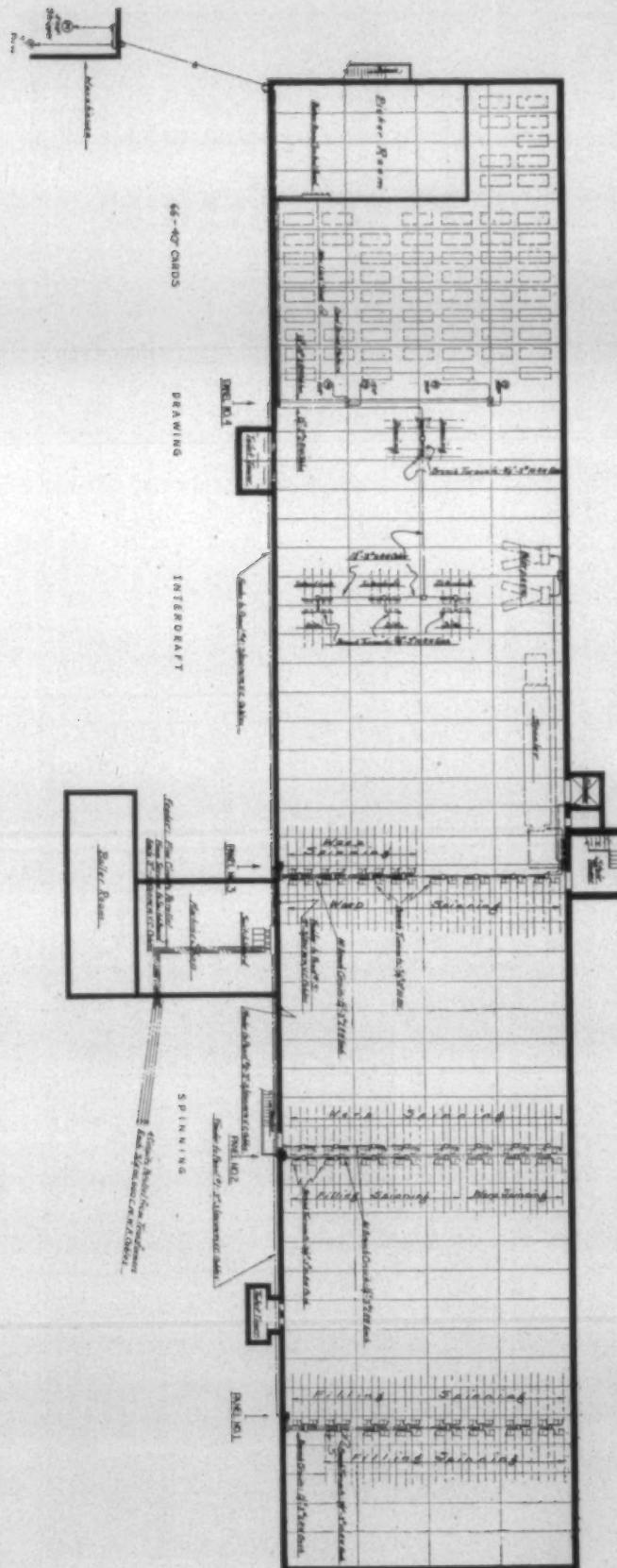
The program of improvement or modernization will start in the opening room and extend through the picker operation, card room, drawing, interdraft roving, spinning, spooling and warping, all on the second floor, as mentioned above. This modernization will be accomplished by means of new machinery with individual motor drives in every

phase of the operation. This also includes Barber-Colman automatic spoolers and high-speed warpers.

This full-scale change involves a complete revision of the most important element of mill operation aside from the machines necessary to carry on the actual production of the goods for which the whole idea of the mill was conceived. That is the electric power system, for without electric power this mill (as well as all the others) could not run. Therefore, with quite an investment having been made in new processing machinery, the next step was the installation of



At top left, George Lewis, master mechanic for both plants of Limestone Mfg. Co., standing near the transformer sub-station for Mill No. 1; top right, Duke Power's delivery pole-frame adjacent to sub-station fence, with the main single-pole, underhung disconnecting switches (note that there are at present three 500,000 C. M. cables per phase, whereas the proposed layout calls for a fourth set of cables to be added in space at left); below, dead-ending arrangement of the present service cables from the delivery point, to which will be added the fourth set of conductors.



Plan of second floor machinery layout at Mill No. 1 of Limestone Mfg. Co., showing the relative location of switchboard in the machine shop on the first floor level, with the service feeders from the transformers to the switchboard as they were proposed in the original plans for this project.

MAINTENANCE & ENGINEERING

an adequate and suitable electrical wiring system in the mill to keep all of this nice new machinery in full-time operation without the possibility of loss of production on account of overloaded circuits, or because of fully loaded circuits with no provisions for any moderate future re-arrangement or addition of miscellaneous loads.

In addition to the above features to be provided for in the wiring system, there is another one of equal importance in the operation of *any plant*, textile or otherwise. That feature is full compliance with the requirements of the inspection department standards of the fire insurance carriers with which you do business.

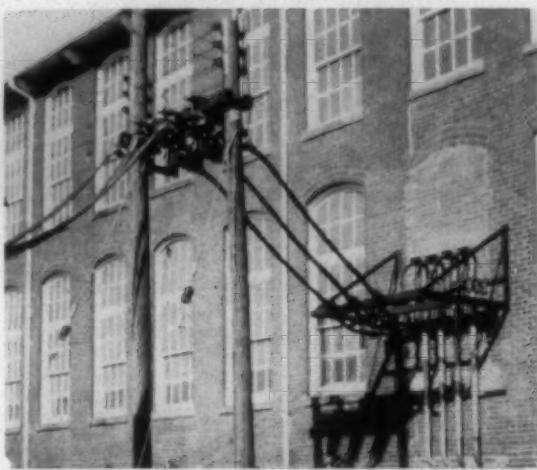
These requirements call for all wiring systems to be designed and installed in strict accordance with the provisions of the National Electrical Code as set forth by the National Fire Protection Association, of which your insurance carrier is a ruling member. In fact, all fire insurance companies are governing members because of the fact that the provisions of the code are minimum requirements of these carriers for practical safeguards for personnel and buildings, their contents, etc., against electrical hazards arising from the use of electric power, lights, heating, signaling, etc. Therefore, it is really money in your pocket, or, a heavier balance in your bank for you to fully meet these requirements from the power entrance to the last motor on the circuit, or the last light somewhere else in the plant.

The first and only practical way to take when contemplating such a step as is involved in this job is to submit plans and specifications of the proposed work to the insurance inspection department for an impartial ruling upon their suitability for the job to be done, or practicability as far as insurance hazards are concerned. This, then, was the next step to be taken by the officials of this mill, in which they submitted full plans and specifications of their proposed work to their insurance carrier's inspection department.

Duke Power Co. serves this plant through its newly-installed substation from a 44,000-volt line transformed through a Delta-Delta bank of three of the latest types of radiator-equipped, 500 K. V. A., oil-cooled transformers in the modern substation structure enclosed in a 50-foot by 50-foot lot in the mill yard, and within 100 feet of the power entrance at the original engine-room wall. The delivery point is a two-pole "H"-frame of 35-foot creosoted poles with three six-inch by six-inch heavy angle iron cross-arms for the bell-type strain insulators for dead ending the feeder-cables from this point to the engine room wall. There were three 500,000-cir. mil cables per phase, making a total of nine cables dead-ended at this point, with a back-guying system being extended over the substation by a short span to a single stub guy pole, which was in turn anchored by means of heavy-duty, four-way spread anchors. (See photograph of this delivery showing the disconnect switches, 3,000-ampere rating.)

From this delivery point or switch-bent to the wall, these cables were supported midway by another "H"-frame similar to the first one, except that the cables were supported by means of heavy-duty pin-type insulators on steel cross-arm pins in the angle-iron arms. At the wall the cables were all dead-ended by means of the same arrangement as employed at the delivery point, or switch-bent. Here the cables were all tapped or spliced by the cables

ELECTRICAL CONSTRUCTION,
REPAIR and MAINTENANCE
for Textile Mills



Complete Service Entrance from Duke Power Co. delivery point to switchboard at the plant of Johnston Mfg. Co., Charlotte, N. C.

James T. Meador

W. W. Hanks

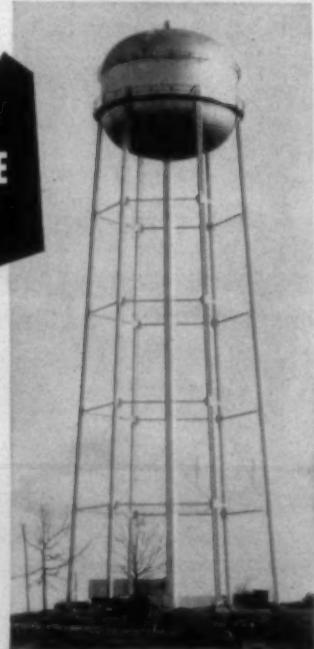
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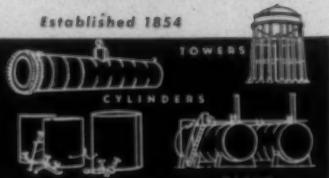
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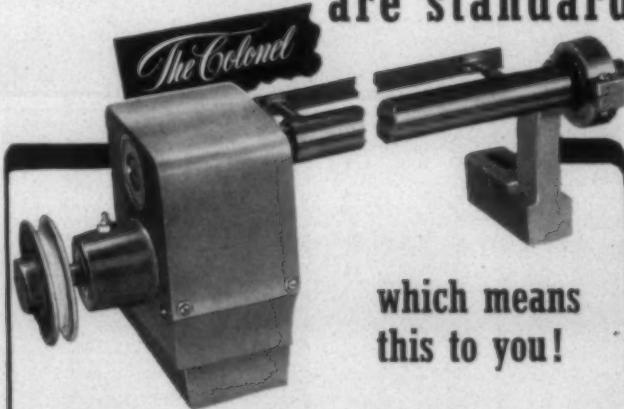


TEXTILE BULLETIN • April, 1949



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A New Product for DYERS and PRINTERS

LOMAR PW

the new dispersing agent developed by Jacques Wolf & Co., assures more efficient and economical processing.

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Level shades and uniform absorption of dyestuffs by the fibres, depend largely upon an even dispersion of colors in the dyebath. The addition of a small amount of LOMAR PW in pasting up indanthrenes or acetates solves this problem.

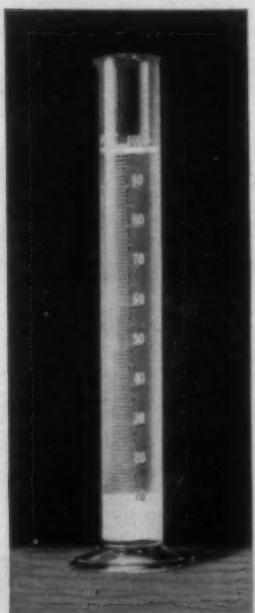
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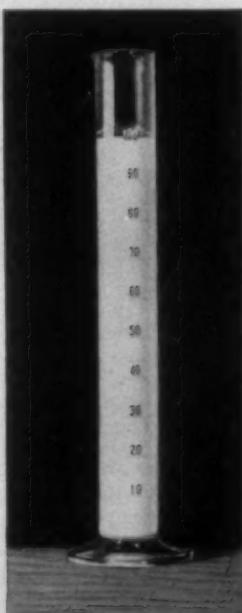
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In backfilling, LOMAR PW is added to the heavy backfill mixture of clay and starches to give uniform suspension of the clay, good flowing properties and more uniform results on the fabric.

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*Blanc Fixe after 30 minutes
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Knoxville, Tenn.



JACQUES WOLF & CO.
Chemicals PASSAIC, N.J.

entering the building on their way to the switchboard, where they were terminated at the main feeder bus bars.

From this switchboard, the feeder circuits were extended to the various load centers located throughout the mill, with each circuit being individually protected against the hazards of overcurrent conditions. (See plan of layout.) Next month we will have an explanation of the wiring layout,

and will emphasize the points of compliance with the insurance requirements.

The layout of machinery shown on the accompanying plan was developed and completed by George Hill and Son, textile and industrial engineers, of Wellford, S. C. T. G. Roche is general superintendent of both this mill and Lime-stone No. 2, and he has generously granted the writer permission to use this layout for the purpose of the study and analysis we hope to make out of this article.

Bleaching, Dyeing & Finishing

SOME DYEHOUSE PROBLEMS

By IRVING TEPLITZ

BEFORE the actual process of dyeing, textile goods must be prepared for dyeing by the removal of all impurities, waxes, foreign matter, oil, grease, dirt, size, lubricating wax, and the like. If the goods are not adequately prepared for dyeing, the subsequent operations cannot be successful. The cloth must be pure textile fiber when the dyeing operation takes place. It is assumed, for this discussion at least, that the cloth has been properly sewed piece to piece, singed if need be, and ready for processing without bruises or tears in the cloth.

Generally, gray goods are clean, but often they have oil or graphite which has been woven into the fabric or spun into the yarn of the fabric. Removal of dirt and grease may be accomplished by a simple scour or without avail after a long procedure. Where the dyer is a commission house, the dirty goods are taken in and there can be no control of the situation; however, where the dye house and weaving-spinning mill belong to the same organization, the best way to handle this problem of dirt and oil is by prevention rather than cure.

Carbon is extremely insoluble and may be removed in part by a long run in the dyeing machine with detergent, preferably soap and an organic solvent. Sometimes, a bleaching process is added to the soap and solvent in order to remove carbon and dirt. Kerosene is a common organic solvent; others are benzol, carbon tetrachloride, dichlorethyl-ether, trichlorethylene, chloroform, naphtha, tetralin and hexalin. Soap, chloroform and ammonia make a solution to be spotted on goods with a sponge (no rubbing) but this is an expensive procedure. Some goods can be given soap and solvent by a run through a mangle or quetsch, and then have it batched up and permitted to stand for a few hours before scouring. Some rayon fabrics become moired by batching-and-holding-wet, so caution must guide this method of cleaning the goods. Red oil is a good oil stain remover for cotton cloth to be bleached. Oil removers should be used with caution on acetate. Sodium acid fluoride removes iron rust as will oxalic acid; the latter must be washed out immediately after use.

It is practically impossible to clean dirty filling of a rayon

crepe fabric after embossing, so dirt and grease should be removed before a heat process. Slightly stained warp knots in multifilament acetate cloths may be treated with a weak solution of oxalic acid. The use of peracetic acid is being developed for cleaning acetate-viscose fabrics.

Sizing materials should be removed from the cloth prior to the actual scouring process. The size must be removed for effective dyeing and finishing; poorly removed sizing in cloth will result in unsatisfactory appearance of goods. The size is removed by enzymes which put the size into solution so that they can be washed off; starch, for example, is converted into soluble sugar. The iodine test for the presence of starch size is a good precautionary practice for the dye house handling rayons and spuns. Linseed oil is a troublesome size to remove but is little used at present. The amylolytic enzymes are used on starch and converted starch sizes, and the glue and gelatin sizes are removed with the proteolytic type enzyme. The concentration used is from 0.2-3 per cent, depending upon the type of goods, and the temperature is controlled according to the requirements of the particular enzyme, usually between 120-140° F., sometimes as high as 160-170° F. As enzymes are destroyed by high temperatures, exact temperature control must be exercised for effective removal of sizing. Steam injures enzymes, so the better practice is to bring the temperature up to the optimum degree, shut the steam off and add the enzyme to the bath. In maintaining the temperature of the enzyme bath, the better practice is to give it a shot of steam as needed, rather than have the steam valve opened a crack (thus continuously giving forth steam). With heavily sized yarns of tight weave cloths, or if time is a factor, the cloth should be run in boiling water, then rinsed and cooled; then proceed with the enzyme treatment. The boiling water will take away some of the size and facilitate the work of the enzyme. The pH of the enzyme bath should be slightly acidic. A wetting agent can be used to facilitate the work of the enzyme; care must be taken in the choice of the agent as some inhibit the enzyme action.

Flat goods which are normally dyed on the jig can have the enzyme padded on the padder, followed with scour in

BLEACHING, DYEING & FINISHING

the jig, or have the enzyme solution entered directly in the jig. Some roll up the cloth after the padding process and let the cloth stand to give the enzyme time to effect its function. In both methods, care must be taken that the enzyme does not give shaded edges as contrasted to the center of the cloth, either due to concentration of enzyme on the edges if the job is done on the jigs, or due to cooling below the optimum temperature at the edges if the cloth is padded and then rolled and permitted to stand a few hours. Spun rayons can be desized on the dye box before scour; some do not drop the desizing bath but scour and dye in the same bath. Spun rayons are desized on the continuous boil-off machine.

The normal period for desizing goods may be from 30 minutes to several hours. It is better practice to drop the enzyme bath and give the cloth a good rinse so that the goods be clean and not contain some size which will give mottled dyeing, especially in pastel shades.

Scouring is a wet process of cleaning by chemical or mechanical means, or both. Cleaning is a process of removing undesirable matter. A detergent is a composition which cleans. Soap is a detergent formed by the saponification or neutralization of fats, oils, waxes, resins or their acids with organic or inorganic bases. An alkaline detergent is a water soluble alkali or alkaline salt having detergent properties but containing no salt. A synthetic detergent is produced by chemical synthesis and comprises of an organic composition other than soap. A builder is a material added to soap or synthetic detergent to improve its effectiveness under the conditions of use.

Scouring depends upon the quality of the water, the amount of goods loaded on the machine in relation to the size of the machine, the detergent, and the removal or lack of removal by rinse of detergent and assistants at the end of the scour. Hard water makes scouring a problem; machines which crowd the goods do not afford an adequate scouring opportunity to the goods; the detergent must fulfill the needs of the instant; and if the goods are not well rinsed, there may be residues which will present later problems in dyeing and finishing. Hard water presents problems in dyeing as well as scouring, and modern practice is to solve this by one of several ways: Zeolite process, demineralizing process of water softening, addition of phosphate salts, etc. If there is an alkaline residue left after scouring, there may be difficulty in dyeing cotton and wool blends. A residue of soap will deteriorate cloth after the cloth is dried. Residues left in cotton after-rinses in the continuous bleach system may affect the quality of later processes. Friction is an important factor in scouring and is supplied by squeeze rolls on slack washers, or just by the movement of the cloth around the winch of the dye box.

The cotton fiber is resistant to alkali, while silk and wool are sensitive to alkali. Acetate is saponified by alkali, and caustic soda is injurious to rayon if not properly handled. The detergent used is applied in a concentration of one to four per cent of the weight of the goods with a ratio of about one pound of goods to 2½ gallons of water in the scour bath. In the woolen dye house where a great quantity of soap is used for scouring and fulling, the soap may be piped to the machines from a storage tank, metered when drawn, pumped for pressure maintenance, and strained for

cleanliness; this method is said to save in the quantity of soap otherwise spilled by manual application by dippers.

As soap is generally made of fats also suitable for foods, it became costly and scarce during the war, and the synthetic detergents came into prominence in dye house use. Today, and from now on, the price relationship of soap and synthetic detergents will determine the amounts of each detergent consumed by dye houses. Water hardness affects soap unfavorably as does acid conditions; in addition, it decomposes on heat and becomes rancid. Synthetic detergents are not so affected. Soap of low titer works well as a detergent in soft water and has the ability to combine with dirt particles in solution. Synthetic detergents affect oil as does soap but are not equal as dirt removers. An excess amount of soap is used in hard water which makes hard water expensive as a solvent, as against soft water. Synthetic detergents work at lower temperatures than soap, hence there is a saving in fuel and time. Synthetic detergents can be used for scouring all fibers, in acid or alkaline solution.

Soda ash, caustic soda and other alkalis have detergent action either alone or as a builder. Cotton is scoured in the kier by means of caustic soda. The phosphate salts which act as water softeners are also used for detergency, especially with soap. These salts are familiar as sodium pyrophosphate, sodium tetraphosphate, and tere sodium pyrophosphate—to name some.

Synthetic detergents cannot be used indiscriminately since they have special qualifications, and each works under a different set of conditions than the others. Some synthetic detergents are very effective in hard water, others are not; some improve in alkali baths and some find alkali baths a detriment; some work in a narrow pH range and some work on a wide pH range. Synthetic detergents can be used for dyeing the most delicate shades. Synthetic detergents are good for single bath scour-dye processes. A certain amount of research work must be done by each dye house to determine which synthetic detergent is better suited for use in the particular processes, and also which synthetic detergent is cheaper from an operational point of view: cost versus effective concentration or dilution.

An anionic detergent is one which produces negatively charged colloidal ions in solution; a cationic has a positive ion charge and the non-ionic is electrically neutral. Most synthetic detergents are anionic; some non-ionics are good for pasting up colors, particularly acetate dyes. As almost all textiles are anionic and absorb cationic substances, there are no cationic detergents (except under special conditions). There are cationic wetting agents.

Synthetic detergents are used in after-treatment of vat and naphthol colors, for scouring and fulling wool, and other purposes. An interesting synthetic detergent is one which is used for lubrication of wool stock prior to carding and spinning of yarn, and is later used for the scouring of the piece goods. This principle would be an excellent one to be carried through for all fibers—that the lubricant or size serve later as the detergent.

In scouring, acetate should not be subjected to great and rapid changes of bath temperatures but should be subjected to gradual bath temperature changes, as acetate is thermoplastic. Acetate will saponify and be delustered if held at the boil. Temperature in scouring and dyeing can be controlled by steam pipe outlet thermostatic electronic control. Acetate should be subjected to a maximum temperature of 175-180° F. Synthetic rubber deteriorates at the boil and

must be dyed and scoured at temperatures under the boil. Saponification of acetate occurs in presence of alkalis. In the early stages of saponification, the affinity of acetate for acetate dyes is increased and this principle might be used in dyeing; after acetate is saponified, it has affinity for cotton dyes. Excessive alkali treatment, say over four per cent caustic soda, will tenderize cotton, and will injure rayon.

A wetting agent is a composition which when added to a liquid medium increases the spreading of the medium on a surface. A wetting agent has no detergent power; a detergent has wetting power. A surface active agent is a composition which when added to a liquid medium modifies the properties of the medium at the surface or interface (includes soluble detergents in liquid medium, dispersing agents, emulsifying agents, penetrating agents, and wetting agents). A wetting agent may be used to paste up dyes so as to get them into solution readily. Leveling agents are used to promote color uniformity. Emulsifying agents are used to disperse oil and pigment particles. The wetting agent causes the fiber to become completely saturated with dyestuff solution; leveling agents cause the dyestuff to go on uniformly in and out the fiber. Wetting agents are useful where there are tightly woven fabrics or containing hard twist yarns, or where there is quite a load of goods in the dye machine. Wetting agents often permit dyeing followed by scour with the dyeing done by padding as in the case of heavy ducks and rayon lining cloths. After the dye is padded on, the cloth is scoured in the jig.

Level color in textile dyeing depends on several factors. Only dyestuffs which have similar rates of exhaustion should be used together when necessary; conversely, diverse rates of dye exhaustion is one of the causes of uneven dyeing. Colors that exhaust too rapidly give unsatisfactory results, because the tendency of the dyer is to take off the goods when the shade is matched, and this might come before the color is on evenly. Leveling agents retard the dyeing. Soda ash is a simple retarder in cotton dyeing. There are dyes that have good leveling properties; dyes that are controlled by salt for level dyeings; and dyes which need temperature control as well as salt control for level dyeing. The rate of dyeing affects the levelness of the color and depends upon the efficiency of the circulation of the dye liquor; the circulation of an overloaded machine is poor, hence we can expect unevenness. Riggs & Lombard has a method of injecting dye through the steam line into the dye kettle to give improved dye circulation.

To get level dyeing start at low temperature to get a slow exhaustion rate, then raise temperature to get maximum temperature yield and the benefits of a high diffusion rate. Level dyeing depends upon the solubility of the dyestuff, the initial starting temperature, the water ratio to cloth, the rate of rise to maximum temperature, and the optimum dyeing temperature. Wetting agents and leveling agents must be selected with reference to pH of bath, temperature, and other qualifications dictated by working conditions.

The stripping of color from textiles is another wet process before dyeing. Stripping might be simple as in the case of a direct color where mere boiling may remove enough color for redyeing, or may be difficult as in the case of vat colors. Sodium hydrosulphite is used in an alkaline bath (soda ash) to strip color from cotton, viscose, silk and nylon. Wool is stripped by use of zinc hydrosulphite in an (acetic) acid bath; the goods are first boiled with ammonia

and then washed. Sodium sulfoxylate formaldehyde strips wool, zinc sulfoxylate formaldehyde strips acetate and nylon, and there are acid baths in both instances. Nylon is stripped by use of acetic acid, sodium chlorite and zinc sulfoxylate formaldehyde.

As the dyeing operation, the stripping operation, and all wet dye house processes are usually performed in either an acid or alkaline bath, the determination and control of pH, the means of expressing the acid-alkaline relation, becomes obviously important. Its relation in turn to synthetic detergents, wetting agents and leveling agents also becomes apparent and noteworthy.

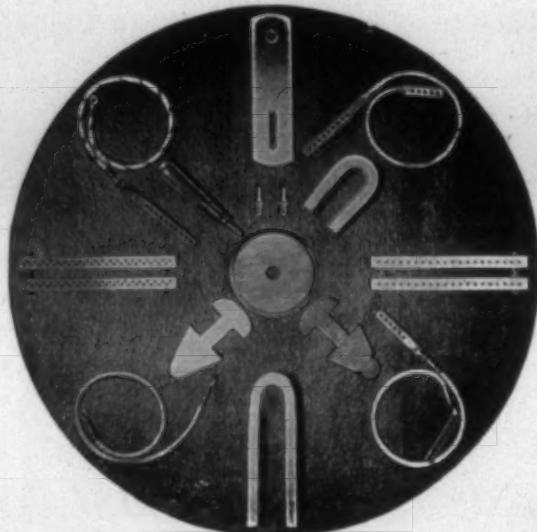
Textile Bleaching Subject Of New Book

Of interest to those connected with the bleaching, dyeing and finishing sections of the textile industry is a new book published by John Wiley & Sons, Inc., 440 Fourth Avenue, New York City, entitled *An Introduction to Textile Bleaching*. The author, J. T. Marsh, M.Sc., F.R.I.C., F.T.I., points out that textile science has advanced on two broad fronts: first, a detailed examination of the characteristic properties of the textile fibers, and second, their behavior in various circumstances. The author presents his subject matter as simply as possible and practical application is stressed. The book contains over 150 half-tone illustrations and figures with numerous tables and a bibliography of bleaching. It is divided into six parts: The Textile Fibers; Wetting and Detergency; Scouring and Bleaching of the Cellulosic Fibers; Scouring and Bleaching of Animal Fibers; The Drying of Textiles; and Tests for Damage.



BURLINGTON MILLS CORP. has become the first textile manufacturing firm to completely costume a theater company. Above, Lisa Kirk and Harold Lang are shown in a wedding scene from "Kiss Me Kate," the Cole Porter musical hit now running in New York City. For the women in the cast, Bur-Mil employed its rayon crepe, nylon tricot, sheer nylon, Royal Swan ribbons and Cameo nylon hose. The men wear spun rayon suitings, shirtings and nylon socks. Nylon curtaining and cotton-textured drapery fabrics are being used for scenic effects.

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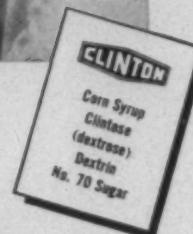
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Promotions, Resignations, Honors,
Transfers, Appointments, Elections,
Civic and Associational Activities

PERSONAL NEWS

Ollan J. Pearsey has been named director of the new personnel department at Carolinian Mills, Inc., at High Shoals, N. C. Mr. Pearsey formerly was paymaster at the plant and has been succeeded in that post by David W. Frye.

Robert M. Dowling, general manager of the Sanforized Division of Cluett, Peabody & Co., Inc., has been elected a vice-president of the firm.

Claude Crocker, head baseball coach at Presbyterian College, Clinton, S. C., has been named recreation director at Lydia Cotton Mills at Clinton.

Dr. J. H. Dillon, director of research at the Textile Foundation and the Textile Research Institute, Princeton, N. J., has been elected a fellow of The Textile Institute, London, England. . . . Stanley Backer, head of the textile materials engineering laboratory of the Philadelphia Quartermaster Depot, has been elected to an associate fellowship by the institute.

R. R. Higgins, a vice-president and treasurer of the Kendall Co. since 1922, has been elected executive vice-president of the firm by stockholders and directors. All other officers and directors were re-elected.



John M. Reed, left, has succeeded E. H. Isenhour as Southern agent for Ashworth Bros., Inc., at Charlotte, N. C. Mr. Isenhour, who retired recently, had been Southern agent for the firm since 1914, and prior to that date was connected with W. H. Bigelow Co., manufacturers agents who represented Ashworth in the South. Mr. Reed has been connected with the Ashworth organization since November, 1938, as sales and service representative contacting mills from Baltimore to New Orleans. Prior to joining Ashworth he served 18 years with Saco-Lowell Shops in Charlotte, Greenville, S. C., Newton, Mass., and Biddeford, Me. Other personnel changes in Ashworth's Southern organization follow:

R. B. Wilson, formerly in charge of the Atlanta, Ga., repair shop and responsible for sales and service in the Georgia, Alabama and Tennessee territory, has retired and has been succeeded by J. E. Seacord, Jr., a 1947 graduate of Clemson College, who will make his headquarters at 357 Forrest Avenue, N.E., Atlanta. . . . T. F. Hart, formerly

with Cannon Mills and with Ashworth for the past ten years as service representative and card clothier, has been promoted to the sales and service force, covering the North Carolina territory. . . . A. D. Ennis has been promoted to the service department, in charge of card inspection work. He formerly was connected with Cannon Mills Co., Plant No. 4, and has been with Ashworth for the past five years. . . . A. E. Johnston, Jr., has promoted to plant manager in charge of operations in the new manufacturing plant in Greenville, S. C., and is also responsible for sales and service throughout South Carolina. . . . A. E. Johnston, Sr., continues in charge of the repair department in the Greenville shop. . . . J. E. Cox, Jr., is office manager in Greenville and Miss Nellie Shuford is office manager in Charlotte.

Harvey W. Moore, who was unable to attend the recent American Cotton Manufacturers Association convention because of the serious operation he underwent at Boston, Mass., has been released from hospital care and is now spending a short time at the Waldorf-Astoria Hotel in New York City with Mrs. Moore. The Palm Beach meeting completed Mr. Moore's term of office as chairman of the A. C. M. A. board of government. He is expected to return to his home in Charlotte, N. C., and position as vice-president and treasurer of Brown Mfg. Co., Concord, N. C., within a few weeks.

John P. Stevens, Jr., president of J. P. Stevens & Co., Inc., was to have received a special citation April 27 at a dinner sponsored by the joint defense appeal in behalf of the United Jewish Appeal of Greater New York. Mr. Stevens was to be cited for the humanitarian services and outstanding leadership he has rendered in every worthy philanthropic and communal activity in the rayon industry and in the life of the community.

Dr. Carl F. Prutton has been appointed vice-president-director of operations of all plants of Mathieson Chemical Corp. and Arthur T. Bennett, vice-president, has been placed in charge of the eight plants acquired from Southern Acid and Sulphur Co. R. B. Worthy and J. F. Newell have been named Mathieson vice-presidents. . . . Thomas S. Nichols, chairman of the board and president of Mathieson, recently was named a director of the Bigelow-Sanford Carpet Co., Inc., and E. Kemp Swift, chairman of the board of Whitin Machine Works, was re-elected to the Bigelow-Sanford board.

Robert Nickles of Charlotte, N. C., textile printing technician, has joined the newly-organized technical textile sales division of Hilton-Davis Chemical Co. of Cincinnati. In the past Mr. Nickles was associated with the Rock Hill (S. C.) Printing & Finishing Co. and for a time he was an inspector of textile materials for the Army ordnance department.

Paul J. Welsh has joined the research staff of E. F. Houghton & Co., Philadelphia, and will specialize on research on resins for textile applications. A graduate of Carnegie Institute of Technology, Mr. Welsh previously was associated with the B. F. Goodrich Co., Toledo, Ohio, and the Bureau of Mines in Bruceton, Pa.

Dr. H. C. Lecher, since 1938 associate director of research, has been named director of research of the Calco Chemical Division of American Cyanamid Co. Other research staff appointments follow: Dr. Mario Scalera, appointed assistant director of research



DAN RIVER MILLS, INC., employees recently staged their fourth annual fashion show. Above, George S. Harris, president of the firm, congratulates Mrs. Jewel Hall Owen of Danville, Va., for becoming "Miss Dan River of 1949." Mrs. Owen is employed in the Dan River order department.



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PERSONAL NEWS

in charge of the Organic Research Section. . . Dr. R. P. Parker, assistant director of research in charge of the Pharmaceutical Research Section. . . Dr. R. H. Kienle, named director of application research, and Dr. A. L. Peiker, formerly manager of the dyes technical service, appointed associate director of application research.

I. T. Meyer has been appointed manager of the Covington, Va., plant of Industrial Rayon Corp. Mr. Meyer succeeds Lester R. Carrier, who is retiring after almost 23 years of service as a plant manager with the company. Mr. Meyer joined Industrial Rayon in 1928, and prior to that was associated with National Aniline & Dye Co. at Buffalo, N. Y.



R. Robbins Lowe, left, of Charlotte, N. C., has been appointed Southern agent in charge of sales for Saco-Lowell Shops, succeeding the late Walter W. Gayle. Mr. Lowe has been connected with Saco-Lowell for the past 13 years as selling agent for the Charlotte territory, and is well known in the textile industry in the South. Prior to joining Saco-Lowell in 1936, he held supervisory positions with Washington Mills Co. at Fries, Va., Mooresville (N. C.) Mills, Inc., the Fayette Plant of Alabama Mills, Inc., and Locke Cotton Mills Co. at Concord, N. C. . . J. W. Hubbard, formerly located at the Atlanta, Ga., office, has been transferred to Charlotte as selling agent in that territory and H. M. Walsh, also formerly of the Atlanta office, has been transferred to Charlotte as Southern service manager.

Samuel B. Lincoln has been elected president of Lockwood Greene Engineers, Inc., architects and engineers widely known in the textile field. Mr. Lincoln succeeds Chester S. Allen, who was named chairman of the board of directors. Rita A. Gallagher and George L. Hawkins, II, were appointed assistant treasurers. The present board of directors, treasurer and clerk were re-elected.

Samuel L. Hayes of Charlotte, N. C., Southern manager of Ciba Co., Inc., is now a member of golfdom's exclusive "hole-in-one-club," having scored an ace recently on the 160-yard No. 11 hole at the Charlotte County Club course.

Burke McConnell has resigned as a vice-president and director of Burlington Mills Corp., it is announced from the firm's headquarters at Greensboro, N. C. At the time of his resignation he was charged with manufacturing and selling responsibilities in the ribbon and cotton yarns division.

Recent personnel appointments in the rayon technical division of E. I. du Pont de Nemours & Co., Inc., follow: Dr. Robert E. Wilfong, research chemist in the acetate research section at Waynesboro, Va., Dr. Linton G. Ray, Jr., and Dr. John P. Wilkins, research group leaders in the rayon pioneering research section at Buffalo, N.

Y., were promoted to research supervisors. Dr. Chiles E. Sparks, a research supervisor in the rayon pioneering research section at Buffalo, was transferred to Wilmington, Del., as co-ordinator of dye work on fibers and will be liaison with the organic chemicals department group working in the same field.

W. S. Huss has been appointed sales manager of the Southern Division of Acme Steel Co. with headquarters in Atlanta, Ga. Assisting Mr. Huss will be J. C. Brill, New Orleans district manager, and C. A. Carroll and W. G. Polley, special representatives. Mr. Huss succeeds F. H. Webb, who retired from the company on his 30th anniversary.

George W. Boys, who has been vice-president and assistant treasurer of Green River Mills, Inc., Tuxedo, N. C., has been elected president and treasurer of the firm. He succeeds his father, Robert W. Boys, who died early this year. Ernest M. Boys, previously superintendent, becomes vice-president and assistant treasurer, and Ralph W. Boys has been promoted from assistant superintendent to superintendent. D. S. Blois continues as secretary.

Henry M. McKelvie, well known in the Southern textile industry as a manufacturer as well as supplier of machinery and parts, has joined A. D. Julliard & Co., Inc., with his first assignment at the firm's Aragon (Ga.) Mills.

James C. Self, Jr., has been named treasurer of Greenwood (S. C.) Mills and Ninety-Six (S. C.) Cotton Mills. He previously was assistant treasurer of both concerns. His father, James C. Self, Sr., gave up the duties of treasurer, but continues as president.

Frank P. Perry, at left below, has been appointed manager of the Charlotte, N. C., office of Stein, Hall & Co., Inc., New York, and Norman H. Nuttall, at right, has been named manager of the firm's textile sales



department, the position formerly held by Mr. Perry. Mr. Perry joined Stein, Hall & Co. in 1937, and prior to that was connected with Amoskeag Mfg. Co. Mr. Nuttall has had extensive experience in textiles and has been connected with the firm since 1940.

C. E. Dugan has been appointed secretary of Plymouth Mfg. Co. at McColl, S. C., succeeding F. F. Adams, who requested fewer responsibilities due to ill health. Mr. Adams remains on the staff of Plymouth and is also continuing as secretary of Marlboro Cotton Mills.

Richard D. Greenway has been appointed to the sales staff of the Philadelphia Quartz Co., representing the firm in Maryland, Virginia and North Carolina. A native of Missouri, Mr. Greenway recently completed the

company's training course in silicate uses to industry and prior to his new appointment represented the firm in the Pennsylvania territory.



Carl M. Chalmers, left, has been appointed a representative for the textile division of Texize Chemicals, Inc., Greenville, S. C., and will service textile mills in the Southeast. Before entering the armed services, Mr. Chalmers was as-

sociated with the Draper Corp. and upon his release from service studied textile manufacturing at Clemson College. W. N. Kline, Jr., is sales manager for the textile division and W. J. Greer is president of the firm.

John W. Engle resigned April 1 as superintendent of the cotton department at Virginia Mills, Inc., Swepsonville, N. C. Mr. Engle said he was retiring in order to "take a much needed rest."

Prof. E. W. Camp, head of the textile department at Alabama Polytechnic Institute (Auburn), will retire this year by Alabama statute. He has devoted many years to textile education, previously having been with Georgia School of Technology and Texas Tech.

Jack Swann has been named general manager of Wehadkee Yarn Mills, Talladega, Ala. Mr. Swann formerly was superintendent of the worsted division of the Shawmut, Ala., plant of West Point Mfg. Co.

Fred T. Lawson has resigned as superintendent of Robbins (N. C.) Cloth Mill to accept a similar position at the new Harris Plant being erected by Greenwood (S. C.) Mills.

Hal Ballard, formerly superintendent of the Burlington Mills Corp. Hillcrest Throwing Plant, High Point, N. C., is now superintendent of the rayon weaving plant at Altavista, Va.

Samuel L. Abbott of Wilton, N. H., has been named president of Abbott Machine Co., Abbott Worsted Mills and Hillsborough Mills, succeeding his late father, Edward J. Abbott. William M. Abbott, brother of the new president, has been named treasurer of Abbott Machine Co.

Joseph P. Foster of the department of personnel research and training at Fieldcrest Mills, Spray, N. C., was elected president of the Virginia-Carolina Association of Training Directors at the organization meeting of the group March 30. . . . Personnel changes at Fieldcrest include: H. E. Williams, transferred from the engineering department to the industrial and public relations department as safety director. . . . Ben Dunton, formerly safety inspector in the engineering department, is transferred to the purchasing department as an assistant to the purchasing agent.

John J. Barnhardt, a vice-president of Cannon Mills Co., Kannapolis, N. C., for 25 years, has retired. He remains, however, a member of the board of directors. All other officers and directors were re-elected at

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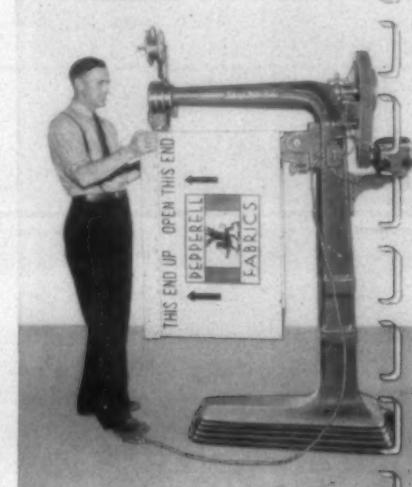
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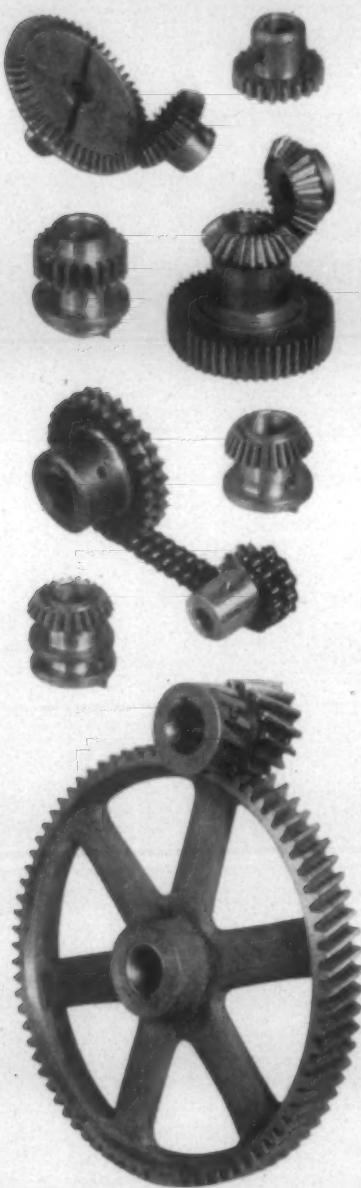
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PERSONAL NEWS

the annual meeting of stockholders, which was held April 12. . . . H. L. Lipe retired April 1 as manager of Cannon's billing and shipping office. He had been connected with the firm since 1911.



J. H. Thomas, left, a vice-president of Owens-Corning Fiberglas Corp., has been named general manager of the new textile products division of the firm, with headquarters in New York City. Heretofore, Fiberglas sales programs have been carried on in eight sales sections, which will be re-grouped.

Harrison C. Givens, Jr., has been appointed plant manager of the Cumberland, Md., unit of the Celanese Corp. of America, succeeding Fred T. Small, a vice-president and director, who is assuming new executive duties in the company's offices in New York.

Jack Locke of Greenville, S. C., has been named general superintendent of all plants of U S Bobbin & Shuttle Co., according to a company announcement. Previously in charge of the plants at Johnson City, Tenn., and Greenville, he now takes over superintendence of the plant at Lawrence, Mass., as well.

Robert M. Hanes of Winston-Salem, N. C., prominent banker and textile official, was sworn in April 13 as head of the Marshall Plan mission to Belgium-Luxembourg. He was scheduled to take over his new duties April 25 in Brussels.

John W. Arrington, textile executive of Greenville, S. C., has been named to the Small Business Advisory Committee of the U. S. Department of Commerce.

Donald J. Eccleston has joined Warwick Chemical Co., division of Sun Chemical Corp., as sales manager of the firm's Sunstone pigment colors for textile printing and dyeing. Mr. Eccleston previously was connected with Aridy Corp. and Glasgo (Conn.) Finishing Co.

Grant A. McClatchie, for the past eight years president of U. S. Finishing Co., Norwich, Conn., was relieved of that post April 6 when he failed to win re-election as a director. Tracey A. Adams, recently named executive vice-president and general manager, was re-elected to that post and will serve as chief executive officer. Donald B. Derby of Syracuse, N. Y., was re-elected chairman of the executive committee and also was named to the newly-created post of chairman of the board.

Francis De Orsey has been appointed general manager of Schneider Mills at Taylorsville, N. C., having been promoted from Hadley Mills, Holyoke, Mass., where he served in the same capacity. Schneider Mills is a unit of the Holyoke organization.

Gordon Riley has resigned as secretary and general manager of Kings Mountain (N. C.) Narrow Fabrics, Inc., to become

production manager of Southern Weaving Co. at Greenville, S. C. Mr. Riley is one of the founders of Kings Mountain Narrow Fabrics and is retaining his financial interest in the firm.

Crawford Rhymers, formerly superintendent of carding and spinning at Laurens (S. C.) Mills, has joined the sales staff of Dary Ring Traveler Co., Taunton, Mass., as sales engineer and representative in the South Carolina territory. He will make his headquarters at Greenville.

A. G. Fisher, Jr., has been appointed Southeastern sales representative for E. F. Drew & Co., Inc., and will make his headquarters at Drew's Greenville, S. C., office. He formerly was assistant superintendent of the finishing plant of Dan River Mills, and has been connected with several other Southern mills.

William G. Werner, manager of the division of public relations of Proctor & Gamble Co., Cincinnati, Ohio, April 12 was re-elected to serve on Brand Names Foundation's board of directors. Mr. Werner also is a member of the National Cotton Council Advisory Committee.

Albert L. Butler, Jr., president of Arista Mills Co., Winston-Salem, N. C., has been elected president of the Winston-Salem Rotary Club. . . . Tom Stilwell, personnel manager of Inman (S. C.) Mills, has been elected president of the Inman Rotary Club and will be installed July 1, beginning of the new Rotary year.

J. B. Gilbert, treasurer of Sonoco Products Co., Hartsville, S. C., has been appointed to the Southern Advisory Board of the Mutual Boiler Insurance Co.

Lester Klempner has been promoted to sales manager of the New York division of National Starch Products, Inc. Prior to his recent appointment, he served in the firm's offices in Baltimore, Philadelphia, Atlanta and Chicago.

Leland I. Doan has been elected president and chairman of the executive committee of Dow Chemical Co. Earl W. Bennett was named chairman of the board. Mr. Bennett is also chairman of the finance committee. Dr. A. P. Beutel and Russell L. Curtis were elected vice-presidents. Dr. Mark E. Putnam was named general manager and a member of the executive committee. Calvin A. Campbell was chosen secretary and Carl A. Gersteker treasurer.



M. H. Cranford, left, has been appointed Southern manager for Sterling Ring Traveler Co. of Fall River, Mass. Mr. Cranford has represented Sterling as service engineer in South Carolina for the past two years. He formerly was associated with Springs Cotton Mills at Chester, S. C. Mr. Cranford is a graduate of Clemson College.

J. Carlile Martin, manager of the Atlanta, Ga., sales division of H. & B. American Machine Co. since 1928, has been promoted

to vice-president in charge of domestic sales, including Canada, with headquarters in Pawtucket, R. I. Walter Gaudet has been named to succeed Mr. Martin as head of the Atlanta sales division, which includes Georgia, Alabama, Mississippi, western Tennessee, Louisiana, Oklahoma and Texas. . . . Other organizational additions and changes follow: Mark E. Wood, who is conducting a survey of the Texas cotton textile industry under the auspices of the Texas Technological Institute, will join the firm May 1 as head of the research engineering department. . . . William Johnstone, who joined the sales staff several months ago, will make his headquarters in Greenville, S. C., devoting full time to the South Carolina territory. . . . Transferred to the Charlotte, N. C., sales organization recently were Raymond L. McCauley, who has been at the home office 12 years, and Frank Cotton, two years with H. & B. and previously with J. & P. Coats Co., Pawtucket. . . . In the service department, Richard Horne will be transferred from Pawtucket to Charlotte as an assistant manager in that division. . . . Robert MacFayden, formerly with Bristol (R. I.) Mfg. Co. and Collins & Aikman Corp., joins the H. & B. sales staff in the Atlanta area.

L. H. Hansel of Felters Co., Boston, Mass., was elected to the board of directors of The Felt Association at the Spring meeting of the group April 7 in New York.

W. H. Beattie, president of Woodsid Mills, Greenville, S. C., has been named chairman of the committee which will direct the 1949 campaign to raise funds for cancer control work in Greenville. . . . Gary R. Bodie, industrial relations director-at Woodsid, has been appointed chairman of the textile division for the drive.

J. Freeman Cooley has been promoted to superintendent of the Beville Plant of Avondale Mills at Alexander City, Ala., replacing J. V. Nelson, who went to LaGrange, Ga., to become general manager in charge of production at Dunson Mills.

Walter S. Montgomery, president of Spartan Mills at Spartanburg, S. C., has been appointed a member of the Government Spending Committee of the National Association of Manufacturers.

Kemp P. Lewis, chairman of the board of Erwin Cotton Mills Co., was honored recently when he was presented the annual civic service award of the Durham (N. C.) Chamber of Commerce. The citation accompanying the award praises Mr. Lewis "whose high principles in relation with his employees and all his fellowmen and whose vision and faith serve as beacons for others to follow in community building."

W. B. Evans, formerly connected with the Ottaway Plant of Monarch Mills at Union, S. C., is now overseer of carding and spinning at Plant No. 2 of Woodside Mills at Liberty, S. C. . . . J. T. Cannon of Abbeville, S. C., is now overseer of weaving at the Easley, S. C., plant of Woodside Mills.

Henry H. Hersey of Greenville, S. C., has been named district sales representative in South Carolina and the southern half of North Carolina for the Eriez Mfg. Co. of

A Full Line of

Fugitive Tints

for Fiber Identification

On Rayon, Acetate, Cotton, Wool, Worsted and Nylon

Buco Oil Tint—A highly concentrated prepared Oil Tint. This includes special tints for use on Nylon.

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Fibertint Concentrate—A highly concentrated prepared Water Tint.

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For Mills Making Their Own Tints

Powdered Tints—Extremely concentrated colors of all shades.

Buco Rust Inhibitor—A rust inhibitor and lubricant.

These tints solve practically every tinting problem. All are easily, quickly, and completely removed. We will be glad to consult with you on any tinting problem.

BLACKMAN-UHLER CO., INC.
SPARTANBURG • SOUTH CAROLINA

Specialists in Spraying, Conditioning and Tinting Identification of All Fibers

PERSONAL NEWS

Erie, Pa. . . S. C. McKerral has been appointed the company's representative in Alabama and will handle the firm's complete line of permanent non-electric magnetic separators.

Reid Tull has been appointed manager of the Philadelphia office of Arnold, Hoffman & Co., succeeding David L. Bockius, who is retiring after 47 years with the company. Mr. Tull's previous connections include Clearwater Finishing Co., Old Fort, N. C., and North Carolina Finishing Co., Salisbury, N. C.

OBITUARIES

Fred N. Carter, 35, production manager for the past 11 years at Peerless Woolen Mills, Inc., Rossville, Ga., died April 2 at a hospital in Chattanooga, Tenn. An outstanding athlete, Mr. Carter was a member of the Peerless basketball team. Surviving are his wife, three sons and two brothers.

Frederick C. Hall, 71, for the past 11 years treasurer of Old Colony Mills, Inc., Taunton, Mass., died April 12. Earlier in his 40-year career in the textile industry Mr. Hall had been associated in an executive capacity with the Nemasket Mills, Inc., of Taunton; the Manville-Jencks Mills of Pawtucket, R. I., Canada and Gastonia, N. C.; Amoskeag Mfg. Co. at Manchester, N. H.; Granite Mills in Fall River, Mass.; Dan River Mills at Danville, Va.; and a textile plant at Lumberton, N. C. Twelve years ago he founded a mill in San Salvador, Central America, and managed it briefly before re-

turning to New England. Surviving are his wife, a son and a step-daughter.

Ernest O. Steinbach, 58, executive vice-president and general manager of Mayfair Mills at Arcadia, S. C., died April 13 at a hospital in Spartanburg, S. C. Mr. Steinbach was a former official of the Aragon-Baldwin Mills at Chester, S. C., and at one time was vice-president and manager of the Florence Mills at Forest City, N. C. Surviving are his wife and a daughter.

Dr. Willard H. Dow, 52, president of Dow Chemical Co., and his wife, Martha, were killed March 31 in an airplane crash near London, Ont., Canada. Three other persons were killed in the crash. Surviving Dr. and Mrs. Dow are a son and a daughter.

William Richter, 62, retired member of the board of directors of E. I. du Pont de Nemours & Co., Inc., died March 20 at his home in Philadelphia, Pa. Upon his retirement four years ago, Mr. Richter was general manager of the fabrics and finishes department of the Du Pont firm at Wilmington, Del. He had been a director for 18 years. Surviving are his wife and two daughters.

Clifton Slusser, 56, vice-president of Goodyear Tire & Rubber Co. since 1926 and one of the nation's outstanding production experts, died March 25 at a hospital in Akron, Ohio. Mr. Slusser joined the firm as a clerk in 1911. Surviving are his wife, one son and a sister.

Raymond N. McAdams, 65, who retired in March, 1948, as secretary of Hercules Powder Co., Wilmington, Del., died April 9 of a heart ailment. Mr. McAdams

joined Hercules at the time of its organization in 1913, and prior to that was associated with E. I. du Pont de Nemours & Co., Inc. Surviving are his wife, a daughter and a brother.

Edward J. Abbott, 64, of Wilton, N. H., president of Abbott Machine Co., Abbott Worsted Mills and Hillsborough Mills, died April 4 at a hospital in Boston. Mr. Abbott had more than 100 patents in his name, covering various textile machinery developments. Surviving are three sons, a daughter, a brother and a sister.

George L. Gilbert, 83, who spent nearly 50 years in the dyestuff business as a salesman for the National Aniline Division of Allied Chemical & Dye Corp. and Andreykovicz & Dunk, Inc., died last month. Interment was made in Upper Darby, Pa. Surviving are his widow, a daughter and a son.

Walter B. Brown, 74, president of Victor Chemical Works, Chicago, died March 21. He joined the firm in 1903 and had been president and chief executive officer since January, 1947.

Robert K. Eaton, 65, former acting dean of the School of Textiles at Clemson College, Clemson, S. C., died March 26 after an illness of two weeks. Mr. Eaton retired this past Feb. 1 after more than 25 years service at Clemson. He was regarded as one of the ablest teachers of textiles in the South. Prior to joining the Clemson faculty in 1923 he was connected with Whiting Machine Co., Whitinsville, Mass., and Cabot Mfg. Co. at Brunswick, Me. Surviving are his widow, a son, a daughter and a sister.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

LANCASTER, S. C.—According to the Drafter Corp. of Hopedale, Mass., Springs Cotton Mills has placed an order for 14,000 looms. The X2, XD and XL looms, it was stated, will be delivered over an 11-year period with production beginning next October and moving at the rate of 100 a month. According to Clark's *Directory of Southern Textile Mills*, the seven weaving plants of Springs Cotton Mills now operate a total of 13,294 looms.

GREENVILLE, S. C.—Bids have been received for construction of an extension to the present weave room at Southern Weaving Co. to cost about \$100,000. The McPherson Co. of Greenville is the architect for the project.

GAFFNEY, S. C.—Forty-four persons whose periods of continuous employment at Gaffney Mfg. Co. run from five to 52 years were honored at a dinner April 14. Aaron L. Taylor, plant superintendent, presided at the dinner and introduced the guests.

PITTSBORO, N. C.—Construction has started on an addition to Chatham Mills, Inc., which will increase the size of the plant by one-third. The new addition is expected to be in operation by October. Thirty-two new

looms have already been purchased and extra space will be provided for the installation of others at a later date. The plant produces woven labels and it is planned eventually to make the Pittsboro facility the largest woven label plant in the nation.

ASHEVILLE, N. C.—The American Enka Corp. recently reported 1948 net income of \$8,020,676, an increase of 32 per cent over 1947 income of \$6,053,802. The company paid \$1,303,925 in dividends, at the rate of \$3.50 a share, and retained \$6,717,751 in the business for capital additions and improvements to the Enka plant near Asheville and completion of the new plant at Lowland, Tenn.

PINE BLUFF, ARK.—Construction of a brick building to house the new \$1,800,000 plant of Pinecrest Cotton Mills, Inc., began here recently, William P. Snover of Kansas City, principal stockholder, announces. Clyde H. Smithwick of Pine Bluff and William Peterson of Little Rock are contractors. Hardy and Schumacher of Kansas City, Mo., are architects. A spinning room, weave room and cutting and sewing department will be included in the plant. Finished cotton articles, including service garments and hotel and hospital linens, will be manufactured.

The Pine Bluff Industrial Foundation has loaned \$100,000 to the corporation at two per cent interest, payable in 12 years, to erect the building.

GREENSBORO, N. C.—Although net sales were higher, Cone Mills Corp. showed a decline in net income and profits during 1948 as compared with 1947. Reporting on the year ended Dec. 31, 1948, the firm announced a net income of \$14,402,437. In 1947 the figure was \$15,101,208. Profits, after income taxes, were \$10,532,046, compared with \$11,833,232 the previous year. Net sales rose from \$113,711,235 in 1947 to \$120,438,190 in 1948.

ELBERTON, GA.—Construction is progressing on the \$500,000 expansion program at the Elberton Division of United Rayon Mills. The project, which will double the size of the mill, is scheduled to be completed by mid-July.

NEW YORK, N. Y.—Duplan Corp. reports sales and earnings of the company and its Canadian subsidiaries for the nine months ended Feb. 28, 1949, were larger than for the corresponding period last year. Net sales and earnings were \$34,624,668 and \$2,949,814, respectively, compared with \$29,886,

COTTON • RAYON • WOOL • SILK • NYLON

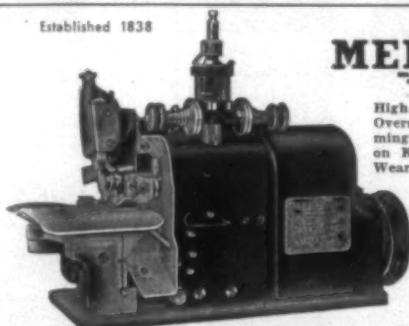


Plans and designs for all types of projects related to the textile industry. Appraisals, modernization studies, machinery layouts, air-conditioning, power and water filtration plants, and other phases of textile engineering.

ROBERT AND COMPANY ASSOCIATES
INCORPORATED
Architects and Engineers
ATLANTA

THIRTY-ONE YEARS' NATIONWIDE EXPERIENCE
IN INDUSTRIAL AND TEXTILE DEVELOPMENT

Established 1838



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High Speed Overeding,
Overseaming and Hem-
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on Knitted and Woven
Wear of All Kinds.

Quality Results
— High Production — Convenient Handling — Minimum Time Out for Adjustment and Repair — Low Upkeep Costs.

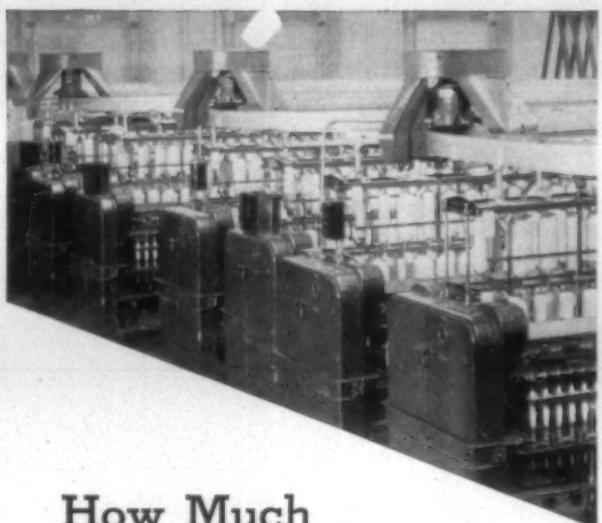
For Best Results Use a Machine Suitably Arranged for Your Work.

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How Much Does Hand Cleaning Cost?

Rigged with ParksTurbo Traveling Cleaners, frames are cleaned every three or four minutes.

Hand cleaning, done as often or as regularly, might be better. But what spinner would want to fan a bunch of frames fifteen or twenty times an hour? Or who would want to pay for it?

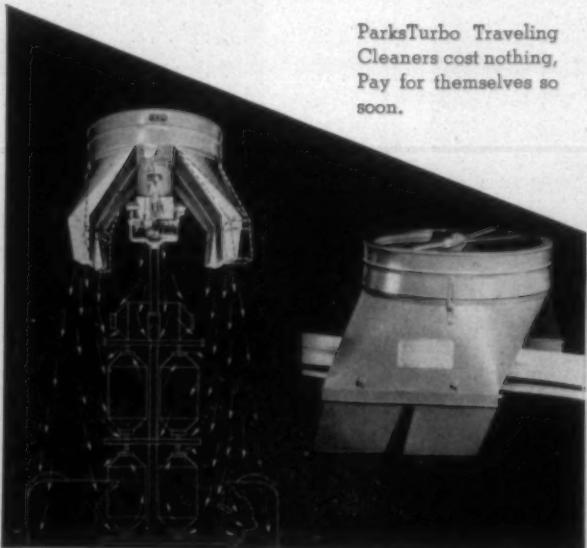
ParksTurbo Traveling Cleaners take the drudgery out of spinners' work—and earn their keep besides.

Parks-Cramer Company

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ParksTurbo Traveling
Cleaners cost nothing,
Pay for themselves so
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A few comparatively inexpensive improvements to your elevator equipment may pay big dividends in improved service.

We can increase elevator speed or lifting capacity, install motor operated hatchway doors or improved push button controls, add time-saving self-leveling devices, and generally increase elevator efficiency. These improvements save employee time, speed up production, and increase safety.

Free Surveys

We will check up on your equipment, regardless of its make, and present our recommendations for your approval, without any cost to you. Call on us.



SERVICE FACILITIES IN PRINCIPAL SOUTHERN CITIES

- Electric Freight and Passenger Elevators
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MONARCH ELEVATOR & MACHINE CO.

Greensboro, N.C. Department C
The Largest Firm in the Southeast Devoted
Exclusively to Elevator Manufacturing

MILL NEWS

377 and \$2,607,412. The firm operates plants in Pennsylvania, Virginia, North Carolina, Tennessee and Canada.

MOORESVILLE, N. C.—The six plants of Mooresville Mills were honored recently by the North Carolina Department of Labor for achievement in accident prevention during 1948. The firm was awarded the Labor Department's Certificate of Safety Achievement, which was presented to General Manager C. W. Gunter by Harry Billings, safety inspector representing the Department of Labor in the Mooresville district.

SEVIER, N. C.—It is reported that unidentified interests have taken an option on a site here for possible construction of a textile finishing plant. Final decision, it is said, depends on whether the section can provide a suitable labor supply. W. G. Perry of J. E. Sirrine Co., Greenville, S. C., designing engineer, said the plant would be for textile finishing only, with the possibility of the addition of a spinning mill at a later date. It is estimated that the plant would be built at a cost of "several million dollars" and would employ around 500 persons.

DANVILLE, VA.—Dan River Mills announced March 24 it would guarantee prices on all first quality goods of its finished dress goods department and stormwear department to buyers receiving delivery not later than June 30. In a move to insure customers against possible announced price reductions, the company in a letter mailed to the dress goods trade advised that any such reductions would be applied to unshipped balance contracted for "in accordance with the original delivery dates," as specified in existing or future contracts. The offer is effective immediately. Price reductions are not anticipated, the letter noted, nor is the action to be deemed "as any indication or assumption that any precedent is set with respect to deliveries of finished dress goods beyond June 30, 1949." While the letter referred specifically to first quality dress goods, Dan River officials said the new policy would also apply to sales of first quality stormwear fabrics. It also was emphasized that the plan would not apply to the company's suitings, work clothes, shirtings or gray goods divisions. John M. Hughelett, vice-president and general sales manager, said the action was taken in "an attempt to exert a stabilizing influence on the market."

PASCOAG, R. I.—Premier Worsted Co. is transferring 24 looms from its plant here to its plant at Raleigh, N. C. Company officials will not confirm or deny reports that the entire plant may be moved South.

BURLINGTON, N. C.—The Piedmont Heights Plants of Burlington Mills Corp. has let contract to H. L. Coble Construction Co. of Greensboro, N. C., for construction of additional manufacturing and warehousing space at an approximate cost of \$300,000. Work is to start immediately and is expected to be completed by Fall.

PINEVILLE, N. C.—Additional buildings at the Pineville Plant of Cone Mills Corp. are virtually completed and work began April 4 on the installation of approximately

15,000 additional spindles and 314 looms, which will about double the productive capacity of the facility. When the project is completed, the plant will have more than 31,000 spindles and a total of 630 looms. The expansion program will cost about \$500,000, it is estimated.

SHELBY, N. C.—Ninety-three employees of Shelby Cotton Mills, representing a combined total of 920 years service to the firm, were honored March 26 at an "old timers" banquet. Fay Allen received the only 35-year pin. Thirty-year pins went to W. G. Whitwork, T. C. Hicks, Mrs. Sarah J. McSwain and J. F. Rippy. Voin Francis and F. L. Willis received 25-year pins.

TAYLORS, S. C.—McPherson Co., engineers and architects of Greenville, S. C., have completed designs for a new sewer system and sewage treatment plant for Southern Bleachery & Print Works here. According to R. J. Stephenson, vice-president of Southern Bleachery, the \$58,246 construction contract has been let to Peden Construction Co. of Greenville.

NEW YORK, N. Y.—Sales of Celanese Corp. of America for the first quarter of 1949 declined to \$47,091,190 from \$57,352,379 for the first quarter of 1948, Harold Blancké, president, reported April 13 at the annual meeting of stockholders. "Your company has been reducing its production to the pattern of its sales," Mr. Blancké said. "While this causes considerable unemployment in our own factories, as well as those of our various raw material suppliers, it nevertheless will afford the company an opportunity to review its manufacturing and marketing methods and techniques which should prove beneficial in the long run."

GASTONIA, N. C.—Piedmont Mill, Inc., has been cited by the North Carolina Department of Labor for its achievement in accident prevention during the past two years. The recognition was in the form of a ribbon to be attached to the Certificate of Safety Achievement which the company was awarded in 1947. The citation was presented to Max H. Jackson, superintendent, by A. N. Honbarrier, safety inspector representing the Department of Labor in the Charlotte district.

CLINTON, S. C.—McPherson Co. of Greenville, S. C., engineers and architects, announces that plans have been completed for a new, modern office building at Clinton Cotton Mills. The \$123,000 office building will have, in addition to the general offices, one of the most modern cotton grading rooms in the South. Construction is to be accomplished by Fiske-Carter Construction Co. of Spartanburg, S. C.

GREENVILLE, S. C.—The Easley, Simpsonville and Fountain Inn, S. C., plants of Woodside Mills have been jointly presented a trophy in recognition of their outstanding safety records. The presentation was made April 9 at a banquet honoring the safety councils and supervisors of the plants.

WINNSBORO, S. C.—The United States Rubber Co. will build a new \$250,000 laboratory here for textile research and development, it was announced recently by H. Gordon Smith, vice-president and general

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anager of the company's textile division. The new building will adjoin the company's textile mill in Winnsboro, which is the largest of nine mills operated by the textile division of the company. The new laboratory will permit the consolidation of the research and development work previously carried on in Winnsboro, Hogansville, Ga., and elsewhere, and will provide for substantial expansion of these activities. Construction of the new facility will start as soon as building plans are completed and it is expected to be in operation in about nine months.

CRAMERTON, N. C.—An addition under construction at the Mayflower Plant of the Cramerton Division of Burlington Mills Corp. will add a total of 9,000 square feet of floor space to the plant when completed. The new addition is part of a program to remove outmoded looms and replace them with newer ones. At the Mays Plant, work is underway on the installation of machinery which will increase the capacity of carding and spinning machinery in use there.

NEW ORLEANS, LA.—The International Harvester Co. still plans to build a twine and fiber mill here, it was reported recently. Mayor deLesseps S. Morrison of New Orleans quoted A. J. McCaffrey, president of the company, as saying the reasons for holding up construction plans was due primarily to a fiber shortage that is now easing and high construction costs, also improving.

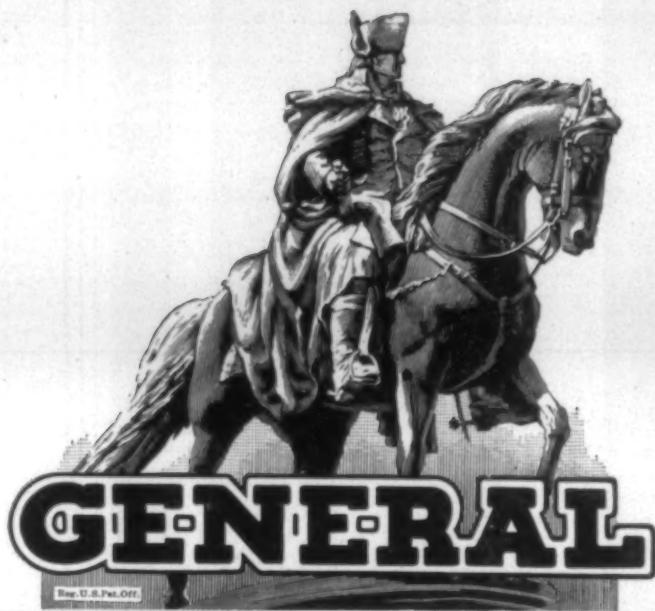
GRIFFIN, GA.—Plant No. 3 of Dundee Mills, Inc., was damaged by a tornado that struck the central-west section of Georgia April 12. W. W. Brooks, superintendent, reported that at the eastern edge of Plant No. 3 was taken off, with some damage to machinery. Seventeen houses in the mill village were blown down or damaged to the extent of about \$25,000, it was stated.

SCOTTSVILLE, VA.—A three-day open house program was observed recently at the United States Rubber Co. plant here, marking the fifth anniversary of the plant's cornerstone laying. Visitors were shown how the rayon yarn is ply-twisted, respoiled, cable-twisted and woven into finished cord ready to be shipped to the company's tire plants.

NEW ORLEANS, LA.—It was reported at the annual directors meeting of Lane Cotton Mills that in line with the program of modernization and expansion of the mill a new card stripping system has been installed by Abington Textile Machinery Co.; looms were being overhauled and replaced where needed; slashers are being modernized; and new beam and package dye machinery was being installed. All officers and directors of the firm were re-elected.

ANDERSON, S. C.—Two hundred and forty homes in the Orr Mills village were sold to workers during the ten-day period March 24-April 2. Three-fourths of the 325 homes had been sold at that time and the remainder were expected to be sold shortly. Orr Mills is a unit of M. Lowenstein & Sons, Inc.

CAMDEN, S. C.—The Du Pont Co. will purchase most of the equipment and construction material for its projected Orlon



High grade gas, by-product and steam coal from Wise County, Va., on the Interstate Railroad.



High grade gas, by-product, steam and domestic coal—Pittsburgh seam from Irwin Basin, Westmoreland County, Pennsylvania, on the Penna. Railroad.



High grade gas, by-product, steam and domestic coal from Wise County, Va., on the Interstate Railroad.



High grade, high volatile steam and by-product coal from Wise County, Va., on the Interstate Railroad.



A laboratory controlled product blended to meet exacting stoker requirements. From Wise County, Va., on the Interstate Railroad.



Genuine Pocahontas from McDowell County, W. Va., on the Norfolk & Western Railroad.



High fusion coking coal for by-product, industrial stoker and pulverizer use from Wyoming Co., W. Va., on the Vgn. Ry.



The Premium Kentucky High Splint unmatched for domestic use. Produced in Harlan County, Kentucky, on the L. & N. Railroad.



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Hazard No. 4 and No. 7 steam and domestic coal from Wiscoal, Knott County, Kentucky, on the L. & N. Railroad.

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Our personnel with the experience gained through long and varied marketing activity assures effective servicing of any fuel requirement.

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MILL NEWS

plant here from Southern markets, it is reported. J. D. Wilson, field manager for the project which will be known as the company's Camden Works, stated that construction, which got underway Feb. 21, probably would be completed in about 18 months to two years.

ABERDEEN, N. C.—Karl Robbins of New York City, president of Colonial Mills, has donated \$10,000 toward the cost of rebuilding the dam at Aberdeen lake, which was washed out last Summer. Colonial Mills operates one of its largest units in Aberdeen.

SYLACAUGA, ALA.—The annual inspection tour of the Avondale Mills plants located here and at Birmingham, Sycamore, Pell City, Alexander City, LaFayette and Stevenson, Ala., will be conducted May 9-11, it is reported.

HUNTSVILLE, ALA.—Stockholders of Dallas Mfg. Co. met April 5 to consider a recommendation of the board for liquidation of its physical properties. George S. Elliott, treasurer and general manager, stated there was an apparent sentiment in favor of the move, although the company had been on a paying basis for some time past. The plant has been operating steadily with about 325 production workers.

STANLEY, N. C.—Stanley Mills, Inc., recently presented a check for \$2,000 to the community of Stanley as the company's contribution toward the construction of a new city hall.

ROCK HILL, S. C.—A \$5,000 memorial to the late Walter T. Jenkins has been made by the Rock Hill Printing & Finishing Co. to the York County Hospital. The memorial fund will be used in the pediatrics ward of the new wing to be opened in May. The late Mr. Jenkins, vice-president and general manager of the company at the time of his death in May, 1947, was a member of the hospital's boards of directors.

GOLDSBORO, N. C.—Borden Mfg. Co. has spent \$250,000 on recent installations of

new machinery, and additional expenditures are planned. First installations of equipment ordered in 1941 were begun in June. These include new opening equipment, ten new fly frames, and 23 new spinning frames. Eleven of the new frames are replacements and 12 are additional equipment, increasing production 16 per cent and requiring employment of ten extra workers. The firm will celebrate its 50th anniversary next year.

NEUSE, N. C.—Expansion of the Neuse Plant of Erwin Cotton Mills Co. will provide for 6,000 spindles and 130 looms, the new equipment to be used in rayon weaving exclusively. Addition of a storage and slasher room will give the plant about 8,000 square feet of floor space. The addition is expected to be completed this Summer.

BOSTON, MASS.—The Kendall Co. spent \$3,200,000 on an extensive program for plant improvement and expansion during 1948, it is reported in the firm's annual report. A capital outlay of \$4 million has been authorized for 1949 with a major portion of this sum earmarked for modernization of the Oakland Plant at Newberry, S. C. The annual report reveals that ton record sales of \$80,963,989 the company had a net profit of \$8,718,958 for 1948, equal to \$10.68 a share. In 1947, the net profit was \$6,876,605 on sales of \$75,187,464.

KOLLOCKS, S. C.—J. P. Stevens & Co., Inc., is collecting cost data with a view toward constructing a rayon dyeing and finishing plant here. Invitations have been issued to contractors to submit bids for such a plant, and a decision will be made at a later date whether to go ahead with construction or postpone the building program, it was said.

MACON, GA.—Bibb Mfg. Co. has announced plans for a new office building at its headquarters in Macon. The new building, to cost between \$250,000 and \$300,000, will house general offices of the textile mills.

NEW YORK, N. Y.—American Viscose Corp. spent \$45 million for major plant repairs and improvements during the past two

years, according to the firm's annual report to stockholders, and at the present time there remains unexpended \$45 million of appropriations made by the board of directors for plant facilities. The firm reports net earnings of \$29,107,000 for 1948, equal, after preferred dividends, to \$13.65 per share on common stock. This compares with adjusted net earnings of \$19,540,000 for 1947, or \$8.96 per share of common stock. Net sales for 1948 were \$242,192,000, a record high and exceeded by 21 per cent the sales for 1947, which were \$200,527,000.

SAN FRANCISCO, CALIF.—California Cotton Mills Co. reports net sales of \$5,691,877 for the year ended Dec. 31, 1948; a slight gain over the \$5,636,718 sales total for 1947. Net operating profit this year dropped to \$464,871 from the previous \$578,182. After deduction of taxes and other charges, net income totaled \$370,020, or \$1.06 per share on 349,500 shares of capital stock. This is compared with the previous year's net income of \$409,809 equal to \$1.17 per share.

WEST POINT, GA.—A contract for construction of a new \$400,000 general office building for the West Point Mfg. Co. has been let to the Batson-Cook Co. Construction is scheduled to be completed within 300 calendar days. The building will be two stories and will be of reinforced concrete with brick exterior.

BIRMINGHAM, ALA.—Alabama Mills, Inc., expended \$736,593 during 1948 for additions to manufacturing facilities and improvements. A total of 8,146 spinning spindles, 1,200 twister spindles and 190 looms were added to the plants. Also, a substantial number of looms were converted from the cam type to the dobby type.

CHATTANOOGA, TENN.—Du Pont's newest nylon yarn plant, which started operations in October, 1948, is now producing at full capacity, it is reported. It is pointed out, however, that in spite of the increased yarn supply, there has been little effect felt by the general market which is still tight with the largest unsatisfied demand in the knitted and woven fabric fields.

For The Textile Industry's Use

EQUIPMENT — SUPPLIES — LITERATURE

Spartanburg Firm Named Agent For Hilton-Davis

Appointment of Blackman-Uhler Co., Inc., of Spartanburg, S. C., to represent Hilton-Davis Chemical Co., Cincinnati, in the Southern textile field is announced by Nelson S. Knaggs, vice-president in charge of sales. At the same time, Mr. Knaggs made public a new series of trade names for its expanding catalog of textile dyestuffs, naphthols, salts and fast bases. Hidacid is the trade name selected for the Hilton-Davis group of acid dyes; Hidaco for basic dyes;

Hiltonaphthols for naphthols; Hiltosal for salts of fast bases; and Hiltonol for the fast bases.

The Blackman-Uhler firm was organized by William B. Uhler and P. C. Blackman, Jr., and began business in early 1945 for the purpose of distributing dyestuffs and textile auxiliaries in the Southeastern area. The office and warehouse are located in Spartanburg, S. C., which is a strategic distributing point. The company began operations with an office and warehouse at 180 Ezell Street. After two years' operation in this location the business had increased

so that it was necessary to seek larger quarters. In February, 1947, they moved into their present location, 182 Ezell Street, which provides ample warehouse, office and laboratory facilities.

New Pillow Block Series Presented By Fafnir Co.

Now in production, a new series of pillow blocks equipped with Fafnir Mechanic Seal ball bearings is announced by the Fafnir Bearing Co. Designated as the LAO series, this line is being produced in nine

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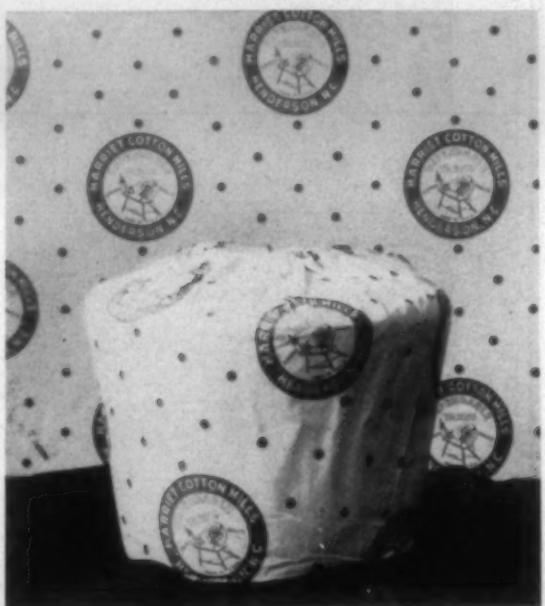
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FOR THE TEXTILE INDUSTRY'S USE—

shaft sizes ranging from $1\frac{1}{8}$ inches to $2\frac{1}{8}$ inches. The LAO is the newest addition to the widely used line of Fafnir transmission units.



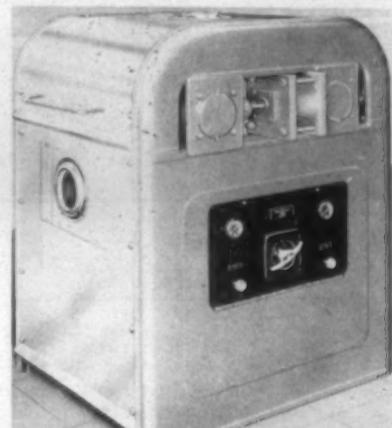
Each LAO incorporates a heavy series ball bearing with wide inner ring and exclusive self-locking collar, making installation on a shaft simple and removal easy. The featured Mechani-Seal is a labyrinth type closure plus an external slinger member to throw off contaminants when operating at normal speed. For added protection at low speeds or under adverse atmospheric conditions, a combination synthetic rubber and felt washer has been incorporated as an integral member of the seal. The bearing has a spherical outside diameter which, when mounted in its corresponding spherical housing, provides unrestricted self-alignment in any direction, the company claims. The pillow block housing is a compact single piece, reinforced at all stress points.

Chemical Engineering Firm Organized By Zimmerman

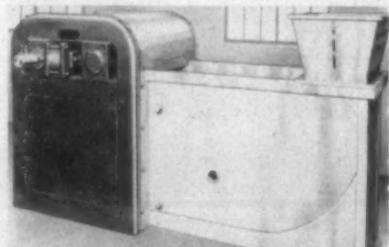
Bernhard G. Zimmerman has organized Zimmerman Associates, chemists and engineers, at Guilford College, N. C. Research laboratories and a plant for manufacturing fine organic chemicals for the textile trade have been temporarily located at Guilford College, on U. S. Highway 421, near Greensboro, N. C. Production has already been started on a number of specialties. At present, the organization will devote most of its facilities to the manufacture of permanent soft finishes for textile fibers and cotton warp sizing compounds.

Laboratory work will be started in the near future on the production of intermediates and dyestuffs. Plans are now being made for the construction of a vat dyestuff plant in the South. It will be the policy of the company to employ only graduate chemists and engineers in both research and production. Dr. Zimmerman, a native of Shiner, Tex., for a number of years was connected with the General Aniline Works Division of General Aniline and Film Corp. at Grasselli, N. J. More recently, he was employed as consultant and Southern sales representative for the Hart Products Corp. from which position he resigned Dec. 31, 1948.

handling of goods are now possible with these new machines during continuous bleaching operations, it is claimed. They are said to be more flexible than conventional equipment because the principal parts are interchangeable. Frame work, bearings,



rolls, air cylinders and control mechanism of the rope squeezer (above) are interchangeable with the saturator (below).



Appreciable savings in production time are claimed. Actual production tests have shown savings of 40 per cent in labor costs alone; 25 per cent less floor space is used. Production speeds as high as 300 yards per minute can be obtained with this equipment. Some of the new features and advantages incorporated in the new Butterworth machines are: faster operating speeds; streamlined design; closures made of stainless steel; rollers completely enclosed to protect workers and keep dirt out; compact, easy to reach controls; gentler handling of goods; three-position pot eye panels, plus many additional features.

The new Butterworth horizontal rope saturator and the new Butterworth rope squeezer are two major steps in standardizing and simplifying continuous bleaching operations, the firm states.

Tension, Velocity Control Maintained By Reeves Unit

Definite operating conditions of web material must be held to exact degrees for many different processes in order to obtain accurate, uniform results, according to Reeves Pulley Co. Constant tension and control of velocity in the web can be maintained by use of a sensitive hydraulic controlled variable speed unit, produced by Reeves, used in conjunction with a floating toll mechanism. This arrangement can be employed to keep machines in synchronism or to maintain uniform tension of goods between two machines or two sections of the same machine. Cloth delivered from one

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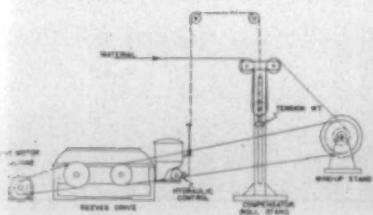
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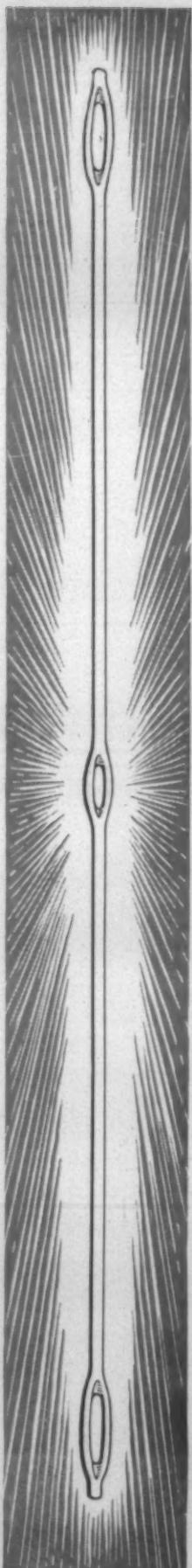
machine passes over a fixed roll, under a floating roll, over a second fixed roll and into the next machine or wind-up drum. The floating roll is connected to the speed control lever of the hydraulically controlled variable speed unit.



The schematic diagram (above) illustrates one set-up of the floating roll and variable speed control unit which is typical of applications found in the textile industry where material must be rewound on a wind-up stand. The illustration shows only the wind-up end, but an identical set-up at the unwind, or delivery end, places material under constant tension and provides the solution to many production problems. The control operates on the principle of controlled tension in the web material. The floating roll is pre-loaded to give a desired web tension, depending upon the material being processed. It is the natural tendency that as the roll increases in diameter, the velocity of the material also increases. This builds up an initial tension in the web causing the floating roll to rise. Once the floating roll starts to rise, it continually rises throughout the complete wind-up indicating a continual speed decrease of the variable speed unit, giving constant velocity to the web. Since the tension is dependent upon the velocity, the tension also remains constant. The floating roll in the accompanying illustration is continually compensating for changes in diameter of the material as it builds up the wind-up roll, with a resulting action of continuous shifting of the hydraulic control to decrease the output speed of the variable speed control unit. Thus, the speed of the wind-up drum is continually decreased as the material builds up in diameter, giving constant tension and velocity on the web throughout the complete process.

Two New Bulletins Offered By Reliance

How the Reliance VSC electronic excitation control system provides functional adaptability for production or processing operations requiring timed-rate, smooth acceleration and deceleration is concisely explained in a two-page bulletin issued by Reliance Electric & Engineering Co. Representing a marked advance over controls which accomplish these functions through the use of a motor-operated rheostat, this recent development is designed to provide the flexibility of electronic control and to take advantage of the economics of the rotating motor generating set as an a. c. to d. c. power converter in the larger horsepower. Used with a conventional variable-voltage motor-generator set, the VSC provides the basic functions of excitation, preset speed with controlled definite time acceleration and deceleration, combined voltage and field control with full motor field control when operating in the voltage con-



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COTTON LOOM HARNESS

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SELVAGES

The logo for Pioneer Heddle and Reed Company features the word "Pioneer" in a large, flowing cursive script. To the right of the script is a detailed illustration of a woman in period clothing operating a spinning wheel. Two sheep are shown near the wheel, one on each side. The background of the entire advertisement is a textured, light-colored surface.

FOR THE TEXTILE INDUSTRY'S USE—

trol range. Either dynamic or regenerative braking can be incorporated. In addition to describing this equipment, Bulletin K-2025 points out the advantages provided by the unit, ampere ratings for which it is made, a. c. supply voltages for which it is available, and other interesting data.

A new two-page bulletin describing and illustrating a recently developed rotating regulator for voltage and current (tension) regulation has also been issued by Reliance. Known as the Reliance VSA regulator, the unit consists of two excitors, driven by a small a. c. motor, which perform the functions of recognizing a signal change and amplifying it into usable d. c. power for the required speed correction of a motor drive. Simplified schematic diagrams and pictures covering two typical plant installations supplement the data given on the control generator, amplifying generator, motor, cabinet and controls. Copies of Bulletin K-2001 and K-2025 are available on request.

Solvay Bulletin Describes Chlorine Bleach Solutions

A new 68-page technical bulletin, of interest to all manufacturers and users of chlorine bleach solutions has been issued by Solvay Sales Division, Allied Chemical & Dye Corp. This new bulletin, the 14th in Solvay's series, takes up the general prop-

erties of hypochlorous acid and its salts, the types of industrially important bleach liquors, and the preparation of bleach liquors. Chlorination equipment and the production of chlorine bleaches are also discussed; each subject illustrated with tables, charts and graphs. Solvay Technical & Engineering Service Bulletin No. 14, *Chlorine Bleach Solutions*, is offered without charge.

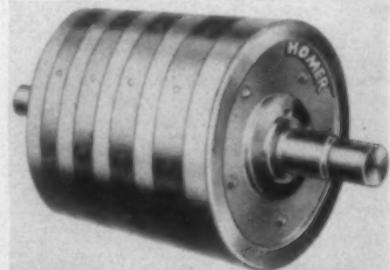
Durant Adds New Model Productimeter To Line

Durant Mfg. Co. announces the addition of the Productimeter lineal tachometer, Model 1646, to its line of Productimeter counting and measuring machines. This new friction drive tachometer is said to be the answer to simple, durable tachometer installations on all types of lineal applications. Model 1646 is available in standard units with dial ranges of 20-200 yards per minute, and 60-600 feet per minute. Other ranges can be manufactured to order. It is so designed that the head can be rotated through 360° to provide for reading from any position. The bracket and swivel hinge allow for unlimited vertical and horizontal positioning of the tachometer. Other features claimed for the lineal tachometer are: it eliminates all of the exposed, difficult-to-mount, external gearing of the standard type of tachometer; there is no flexible cable to wear out or get in the way; eliminates the necessity of having a tachometer for each particular operation; is universally applica-

ble and can be readily moved from one point to another, providing for complete interchangeability of tachometers throughout the plant.

Homer Power-Plus Pulley Added To Company's Line

To complement the line of Homer permanent magnetic separators, the Homer Mfg. Co., Inc., announces the latest addition to this line—the Homer Power-Plus "non-electric" permanent magnetic pulley. Pulleys are designed to be used either head end or as idlers in belt conveyor systems and are furnished in 57 standard sizes . . . in diameters of 12, 15, 18, 20, 24 and 30 inches . . . with belt widths ranging from four feet to 60 inches. The Power-Plus pulley was designed especially for the separation of tramp metals from textile products.



Homer Power-Plus pulleys are crowned to prevent belt weaving and runout and to assist in equalizing the conveyed material as it passes over the pulley. Standard or special length shafts are available to fit new or existing applications without changing bearings or shaft mountings. Head plates are cast aluminum, which eliminate the piling up of magnetic material on the outer edges of the pulley. The design of the pulley is such that there is no loss of magnetic flux to the shaft to attract injurious metal particles to the bearing areas, it is claimed. Homer Power-Plus magnetic separators are permanent and non-electric. They require no outside power source and are not affected by atmospheric or temperature changes and can be applied to either indoor or outdoor applications without interference to the performance of the pulley, the company states.

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Proctor & Schwartz Offers Automatic Weighing Feed

An accurate weighing feed designed by textile engineers is featured in *Proctor Progress*, house organ of Proctor & Schwartz, Inc., manufacturer of textile equipment. The automatic weighing feed is the result of many years' effort to develop the most accurate type of a weighing feed that is possible to construct. Proctor engineers' experience in building feeds for use with all types of carding, garnetting, picking and other machinery, has given them the opportunity to learn all of the many details which are needed to do a good job, it is stated. The large hopper is equipped with a bottom apron. The spike apron is pinned to suit the type of stock to be handled. The patented compensator mechanism keeps uniform pressure of the stock against the spike apron, regardless of how much is in the box. The eccentric comb evens the

As a service to its readers, TEXTILE BULLETIN offers the attached postal cards for use in securing copies of new literature, as well as further particulars about new products, mentioned in "For The Textile Industry's Use" columns. There is no obligation — just fill in the reply card(s), mail to us, and your request(s) will be fulfilled as soon as possible.

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stock across the spike apron, and the new retracting pin cylinder strips it off in small increments to go into the scale mechanism. The scale is of the balanced bottom type with the weight carried on the scale arm cut down about 75 per cent from earlier models. A mercoil switch which operates against the end of the scale arm, controls the motor drive for the spike apron, and also the trap door directly above the scale pan. These feeds are now being used, with suitable modifications, as part of the Proctor blending system, where several feeds are used to supply components to the long apron of the Proctor super picker.

New Literature Available From U. S. Testing Co.

United States Testing Co., Inc., is offering free to readers of this magazine the following booklets, which it believes will be of interest to those in the knitting industry:
Testing Price List—A recently revised booklet listing the various tests made in the laboratories of the United States Testing Co., Inc., and showing the scope of its facilities.
Your Guide to Wise Buying and Certification—Two pamphlets outlining the Certification Plan of the United States Testing Co., Inc., and explaining the value of informative labeling.
Core Testing for Determination of Wool Yield and Shrinkage—A booklet explaining the most accurate method for determining the shrinkage or yield of grease wool, carpet wool or pulled wool; recently revised.
Testing and Research in Modern Industry—Recently revised booklet outlining the services of the United States Testing Co.; also contains various tables of equivalents, conversion factors, and other data useful to textile mills.

Plant Addition Underway At Foster Machine Co.

The Foster Machine Co. announces plans to erect an addition to its plant in Westfield, Mass. The new section will be of brick and steel construction and will add approximately 15,600 square feet of floor space to the production area. Contracts have been let. Construction is starting immediately and completion is expected by Oct. 1, 1949. The additional space will allow re-arrangement of machinery to speed up production and reduce costs by a more direct flow of materials. It is another step in the company's continuing program to maintain the plant at the highest practical efficiency.

List Advantages Of New Softening Agent

A substantive softening agent in the form of a white paste possessing unusual properties is being marketed by the Hart Products Corp. Syntho-Softener B is claimed to assure a soft, full-bodied, velvety hand with maximum draping qualities to cotton, rayon, acetate, bemberg, wool and nylon fabrics. This product, it is stated, preserves the maximum light fastness of goods dyed with such colors as directs, Rapidores, Indigosols, vats and the like; mixes readily with resins, starches, gums, etc.; and is very inexpensive to use. Syntho-Softener B is claimed to avoid the troubles which usually

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occur in the use of cation-active softening agents in that it shows no effect on the shade of dyed goods, no yellowing of whites, no rancidity or deterioration on ageing, and no discoloration on pressing. Syntho-Softener B is readily soluble in hot water, forming solutions which are resistant to mild alkalies, acids or hard water.

Custom-Made Dextrines Available To Industry

Newly improved grades of tapioca, potato and corn dextrines are now being offered by Morningstar, Nicol, Inc., in standard and custom blends, made possible by the recent installation of special design dextrine processing equipment and manufacturing methods at their Hawthorne, N. J., plant. As a custom producer of dextrines from many different starches, the M. N. I. laboratories have built up a technical background helpful in solving production problems of dextrine consuming industries who may not know the advantages and limitations of each type. This experience has produced hundreds of dextrines and blends of interest and useful to textile industries, including carpet and ribbon manufacturers, thread mills and converters of rayon, silk, cotton and other fibers.

The tapioca dextrines are claimed to be equal, if not superior to, pre-war types formerly converted from imported Dutch East Indies flour. White tapioca dextrines, of va-

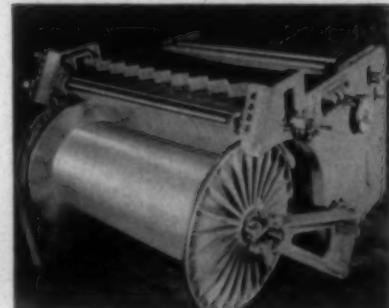
rious solubilities, are designed to fit requirements of the textile industry as sizing.

The firm's white potato dextrines are claimed to be of unusual high quality, made from Aroostook potato starch, produced by a subsidiary, Aroostook Potato Products, Inc., at Houlton, Me. The equipment at this plant was brought from Germany and integrated with domestic, continuous flow, drying equipment. The white potato dextrines are of several types, some being used as stiffening sizings in textile manufacture such as lace, netting and gauze. Canary grades of potato dextrines are also offered for industrial uses and special formulas are prepared to customer specifications in a wide assortment of blends. British gums are available for fabric finishing, sizing for buckram, backfilling of cloth, etc. The corn dextrines produced at the Hawthorne plant are for industrial uses where standard commercial grades on the market are unsuitable.

Sipp-Eastwood Producing High-Speed Direct Warper

Sipp-Eastwood Corp. announces production of a new heavy duty high-speed direct warper, the GB warper. An impressive feature of this new warper, according to the firm, is that it is of far heavier construction, and builds up beams up to 36 inches in diameter, 54 $\frac{1}{4}$ inches or wider between heads without the damaging vibration always present with lighter warpers. The result of its use is smoother, better beams, built up at speeds not safe on other types, it is claimed. Due to the all-electronic cir-

cuit, operation is easy and efficient. Drive AC-DC.



This direct warper has a minimum speed of 150 or 225 yards with a four to one range upward to a maximum machine speed of 900 yards per minute, with electrical indication and infinite control of speed from a single point by push-button controls. Dynamic braking is provided for, with auxiliary magnetic motor braking for beam, and measuring and pressure rolls. A slow speed for threading or inspection, operated by a "jog" type push-button, is provided. Equipment includes static eliminator, dresser rolls, leasing device, two expansion combs, and traverse motion to prevent rolling of ends and assure better beam build-up. V-belts are used in the main drive to the exclusion of gears or chains. A separate hydraulic system is provided for handling beams.

Waste Disposal Bulletin Offered By Bristol Co.

The Bristol Co. announces the publication of Industry Data Bulletin 138 entitled *Industrial Waste Disposal*. The bulletin describes the application of the company's automatic pH recording and controlling instruments and recording flowmeters to industrial waste disposal operations. Photographs of the instruments and diagrams of several typical waste disposal applications are included. Copies are available by writing this magazine.

Liquid Level Transmitter Is Described In Bulletin

A new four-page bulletin, "Taylor Force-Balance Liquid Level Transmitter," has just been announced by the Taylor Instrument Companies. The new literature gives a clear and concise presentation of Taylor's liquid level transmitter which is specifically designed to measure pressure and liquid level of viscous or corrosive liquids and liquids containing solids. It is particularly adaptable to open tanks as well as closed tanks under pressure or vacuum. The bulletin explains the transmitter's force-balance principle of operation with a diagram to point out its corrosion resistant construction design. Application drawings show how it is adaptable to different types of installations and also for flow measurement service. Graphs clearly illustrate the transmitter's highly responsive performance and technical data on accuracy, temperature limits and pressure ranges are defined so that ordering directly from the bulletin is made easy. Bulletin 98069, "Taylor Force-Balance Liquid Level Transmitter," is available on request.

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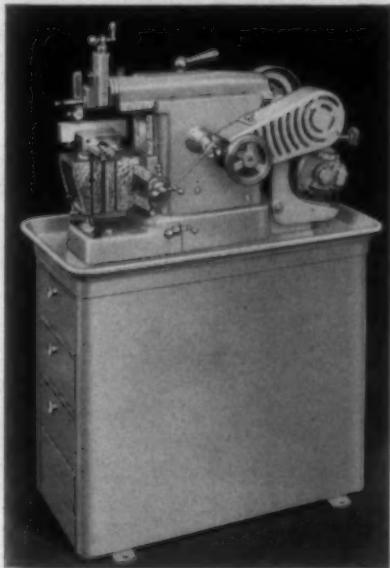
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Buyer Reference Catalog Is Offered By Daniels

The firm of C. R. Daniels, Inc., currently is offering to the industry a 24-page, illustrated, pocket size buyer reference catalog giving details on the baskets, hampers and trucks produced by the firm. A free copy of the catalog will be supplied upon request to this magazine.

South Bend Lathe Works Offers New Bench Shaper

A new seven-inch bench shaper for toolroom and industrial use has been announced by the South Bend Lathe Works. Several years of research, study and planning have resulted in a compact machine that is precision engineered and sturdily constructed. Built to the same standards as the well-known line of South Bend lathes, this new shaper is capable of the most exacting work on parts within its capacity, the firm claims. Main castings for the shaper are made of close-grained semi-steel. The ram and table slides are milled and hand-scraped for precision fit and are provided with adjustable gibbs. The bull gear shaft and countershaft revolve in Oilite bearings. All gears are machine cut from steel or gear fiber for smooth, quiet operation. Backlash is held to a minimum by fitting parts to extremely close tolerances.



The ram is 18 inches long and has ample bearing rigidity in all positions. Length of the ram stroke (zero to seven inches) is adjusted by shifting the rocker arm shoe until the witness mark corresponds with the desired figure on the rocker arm. This adjustment is made with the crank shoe at the extreme top of its stroke. A large handwheel aids in making the adjustment. Cutting speed is variable from three to 114 feet per minute. Stroke rates of 42, 25, 120 and 195 per minute are obtained by shifting a V-belt on four-step cone pulleys. A quick-acting belt tension release facilitates belt changes. Cutting position of tool is adjusted by releasing the rocker arm assembly lock on the ram. The tool head has a three-inch feed, swivels

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to any angle, and has a positive lock. A swivel clapper box allows tool clearance adjustments to be made. A clear cut graduated collar on the feed screw reads in thousandths of an inch. The tool post provided takes tools with shanks three-eighths by seven-eighths.

The work table is 5 $\frac{1}{2}$ inches by five inches by six inches deep. It is slotted on top and sides and has holes for attaching the vise and special work clamps in various positions. The table is equipped with an adjustable outboard support to the base. Reversible power cross-feeds for the table range from .002 to .016-inch per ram stroke. A

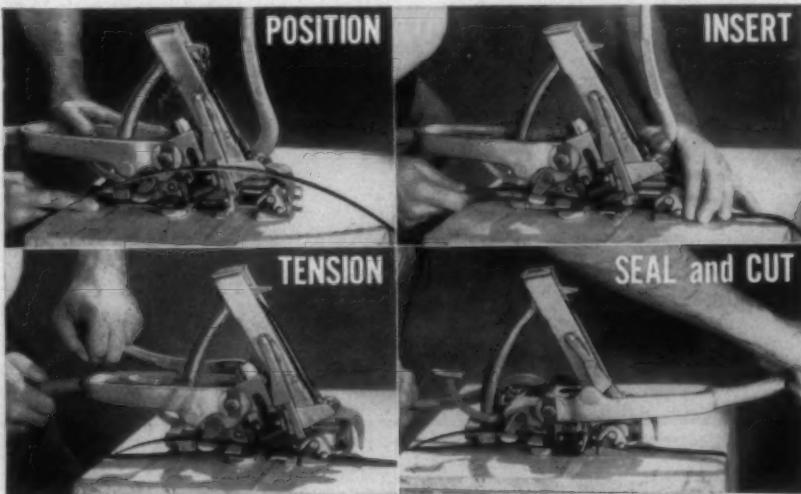
graduated plate indicates the feed. Horizontal table travel is 9 $\frac{1}{2}$ inches, vertical travel is five inches, and maximum distance from table to ram is 5 $\frac{1}{2}$ inches. The vise has a graduated base and swivels to any angle. Vise jaws are four inches wide, one inch deep and open to four inches. A one-third h.p., 1725 r.p.m. motor is required for power and is mounted on a cradle attached to the back of the shaper.

This hoist is said to be extremely well-suited for dyehouse service because of its low headroom design and ability to withstand severe conditions. Copies are available through this magazine.



P & H Hevi-Lift Hoist Provides Precise Control

Illustrated below is a Harnischfeger Corp. P & H hevi-lift electric hoist installation in a dyehouse as used in a dyeing operation.

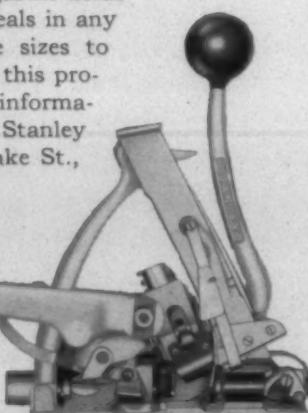


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Norcross Corp. Moves Main Office And Plant

Norcross Corp. has moved its main office and plant to 247 Newtonville Avenue, Newton, Mass., where it has greater floor space and approximately two acres of land for further expansion. The new plant will provide increased manufacturing facilities for recording viscometers, pressure regulators, and other items which Norcross has recently developed. Sales and service for the New England, Canadian, New York, New Jersey and Pennsylvania territories will also be handled by this office. The office in Charlotte, N. C., will continue to be used for sales and service for mills in the Southern states.

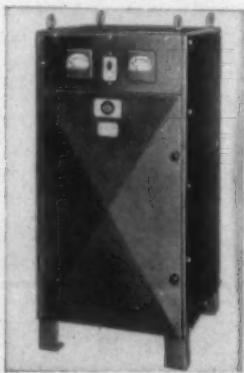
Precision Casting Firm Organized In Charlotte

The newly incorporated Southern Precision Castings of Charlotte, N. C., headed by V. A. Crainich of Dayton, Ohio, will open soon in an 8,000 square foot plant at 2319 Hutchinson Avenue, Charlotte. Mr. Crainich, who will be president and treas-

urer of the firm, formerly was president of Ohio Precision Castings and Di-Mold Corp., both of Dayton. Associated with Mr. Crainich as vice-president will be George H. Montgomery, also formerly connected with the two Dayton firms. The new firm will be the only producer of plaster mold precision castings south of the Ohio River, it is believed, and will serve the entire Southeast.

New Battery Charger Is Offered By Westinghouse

Westinghouse Electric Corp. announces a new Rectox copper oxide battery charger, particularly suited for "on-the-spot" charging of industrial truck batteries used in industrial plants. The new battery charger features the saturable reactor control, said to be a marked improvement in efficiency over the energy wasting rate resistor. This reactor provides smooth, easily made adjustment at output by variation of inductance.



The charger is easy to adjust. The use of a rheostat control, which can even be adjusted while energized, eliminates the necessity of constantly changing taps for high rate, low rate, aging and line voltage variation. The charging cycle is completely automatic after preliminary selection of the rate by the turn of a dial. The Rectox charger can be obtained as a combination unit to charge either lead-acid or nickel-alkaline batteries. Either type of battery can be fully charged in less than eight hours. With the addition of a "plug-in" charge control panel, the simple change from a nickel alkaline charger to a lead-acid charger can be made easily and quickly in the field. The small number of moving parts will give long life and low maintenance cost, the firm states. The charger is designed for either 230 to 460 volts.

Sjostrom Co. Purchases Lawrence Machinery Firm

Sjostrom Machine Co., textile machinery manufacturer of Lawrence, Mass., has recently purchased the plant, machinery and equipment of the Lloyd Churbuck Machine Co. located in the Everett mill properties in Lawrence. Mr. Sjostrom stated in an interview that this is the first step in the expansion program of the Sjostrom Machine Co. Additional space has been contracted for and the new machinery and equipment will be installed and in operation by July 1 of this year.

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March Rayon Shipments Reflect Slowdown

Rayon shipments in March totaling 64,800,000 pounds were 17 per cent under those of February, according to the *Rayon Organon*, statistical bulletin of the Textile Economics Bureau, Inc. Rayon deliveries in the first quarter of 1949 totaled 230,600,000 pounds, 13 per cent below the same period in 1948 and 18 per cent below the fourth quarter of 1948.

The sharpest decline in shipments was felt in staple fiber. Compared with February, March shipments of staple were down 48 per cent, while filament yarn deliveries were down ten per cent. Of a total of 57,100,000 pounds of filament yarn shipped last month, 40,200,000 pounds were viscose-cupra and 16,900,000 pounds acetate. Rayon staple shipments in March amounting to 7,700,000 pounds were composed of 5,900,000 pounds viscose and 1,800,000 acetate.

First quarter rayon filament yarn deliveries totaled 190,400,000 pounds (126,300,000 pounds viscose-cupra and 64,100,000 pounds acetate). Producers' first quarter shipments varied with fourth quarter 1948 as follows: viscose-cupra filament yarn—9 per cent; acetate filament yarn—19 per cent; viscose staple—34 per cent and acetate staple—47 per cent.

As shipments declined, rayon stocks at the end of March rose, according to the *Organon*. Preliminary stock figures indicated that producers held 48,400,000 pounds at the end of the month, compared with 30,000,000 pounds at the end of February and 15,700,000 pounds at the end of December, 1948. Stocks held at the end of March consisted of 21,800,000 pounds of viscose-cupra yarn, 10,400,000 pounds of acetate yarn and 16,200,000 pounds of staple.

According to a survey by the *Organon*, the American rayon producing industry has started curtailment of production and further cuts are in prospect for April. This is graphically shown when current production is compared to the industry capacity study made by the *Organon* in November. Not including the involuntary curtailment in the Nitro plant of American Viscose Corp., shut down by an explosion during the first two weeks of March, when the new study was made, it showed average staple production running at 91 per cent of capacity in the fourth quarter of 1948, and 81 per cent of capacity in the first quarter of 1949, and down to 70 per cent of capacity in mid-March. The estimate for April is 50 per cent of capacity.

Filament yarn average capacity (other than high tenacity) running 98 per cent in the fourth quarter and 99 per cent in the first quarter was down to 91 per cent in the middle of March; estimate for the current month is 81 per cent. High tenacity yarn, 101 per cent of capacity in the fourth quarter and 100 per cent in the first quarter, was back at 101 per cent in March and is likely to increase slightly this month. Total rayon production running at 97 per cent in the fourth quarter, 95 per cent in the first quarter 1949, was down to 88 per cent last month and is expected to decline to 79 per cent this month.

Imports of rayon filament yarn and staple in January, amounting to 2,810,000 pounds, showed a decline of 35 per cent from December, 1948, but a four per cent rise over January, 1948. A total of 2,605,000 pounds of staple was brought into the country for consumption in January, 19 per cent less than the average 1948 monthly rate. Filament yarn imports in January amounted to 205,000 pounds, a drop of 76 per cent from the average monthly rate prevail-

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ing last year. Switzerland was the principal supplier of rayon staple, followed by Belgium, Netherlands and the United Kingdom in that order. France, which was the most important supplier during 1948, shipped less than a tenth of its 1948 monthly rate.

According to a study by the *Organon*, broad woven goods production in 1948, all fibers, totaled 12,388,000,000 linear yards, one per cent above the output in 1947 and 23 per cent above 1939. Only in 1941 to 1943 was a higher level of textile output attained. Highlighting the 1948 output was the new record set in production of rayon, silk, nylon and related broad woven fabrics amounting to 2,279,000,000 linear yards, a gain of 14 per cent over the preceding year. The rise in rayon and related woven goods offset the decline shown in cotton. During 1948, cotton broad woven goods production at 9,646,000,000 yards dropped two per cent from the previous year, but was 14 per cent above the average 1937 to 1939 level.

All categories of 100 per cent rayon fabrics registered a gain during 1948. Filament yarn fabrics were up 11 per cent; filament and spun fabrics 41 per cent; and 100 per cent spun fabrics 27 per cent. Rayon mixture and blended fabrics, velvets, upholstery and tie fabrics declined from the peak reached in 1946.

Production of silk and silk mixture fabrics during 1948, amounting to 19,000,000 linear yards, was more than double the previous year, but still only a fraction of pre-war output. All-nylon fabrics totaling 33,000,000 yards were also more than double the 1947 figure, total production of synthetic fabrics other than rayon (nylon, glass, etc.) amounted to 69,000,000 yards, a gain of 38 per cent over the previous year.

Wool goods output amounting to 463,000,000 linear yards in 1948 showed little change from the previous year. The women's wear market which had experienced a decline in 1947 improved somewhat with a ten per cent increase in 1948. Men's wear fabrics, on the other hand, slumped during the second half of the year to cause a slight over-all decline in wool goods production.

Tire cord and fabric production in 1948 totaling 556,000,000 pounds declined three per cent from the previous year, but was still more than double the pre-war output. Cotton tire fabric, cord and chafer production amounting to 307,000,000 pounds was down 11 per cent from 1947 but still showed a gain of 18 per cent over the output in 1937. Rayon and nylon tire fabric and cord made up for most of the deficit in cotton. Production during 1948 amounted to 249,000,000 pounds, a new record high and up eight per cent over that of 1947.

During the year, usage of rayon and nylon fabric and cord exceed that of cotton for the first time. Thus rayon and nylon together accounted for 51 per cent of the total tire fabric and cord market in 1948 (excluding chafer fabric) as compared with 46 per cent in 1947 and four per cent in 1939. In the fourth quarter of 1948, rayon and nylon made up 56 per cent of the total.

A study of rayon exports and imports by the *Organon* indicates the trend of net export balances. Exports of all types of rayon, amounting to 102,000,000 pounds in 1948, were down 21 per cent from the 129,000,000 pounds in 1947. Imports at the same time rose from 38,000,000 pounds to 51,000,000 pounds. Thus the United States which had a net export balance equal to 91,000,000 pounds

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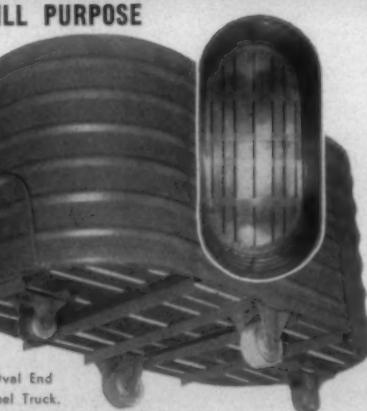
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BOX 244 -- HARTWELL, GEORGIA

in 1947 saw it decline to an equivalent of 51,000,000 pounds of rayon or by 44 per cent. The *Organon* points out, however, that the United States has had a net export balance only since 1941. Prior to that time the United States was a net rayon importer with foreign suppliers in active competition for American markets. The export balance reached its peak in 1947 when nine per cent of domestic production was shipped out of the country. In 1948, net exports constituted only 4½ per cent of domestic rayon production.

Mills May Have To Modify Equipment

Mechanization of cotton picking is essential if cotton is to maintain its competitive position with other fibers. However, this mechanical method of picking cotton is introducing some new problems in the conventional processing of cotton fibers into yarns and cloth, according to the McPherson Co. of Greenville, S. C. While improvements in mechanical cotton pickers will undoubtedly come, it is pointed out, certain undesirable characteristics will remain in cotton so picked. These are: snarling, breaking and tangling of the fibers; appreciably more dirt, leaf, seed husks and foreign materials; and stains and dingy color resulting from delays while awaiting a fully opened field. Other difficulties may arise and more effective cleaning and preparation seem necessary over present conventional methods employed by mills. The present opening room equipment is fairly effective for hand-picked staple but it is the opinion of the McPherson Co. that supplementary equipment will be necessary to efficiently clean and blend mechanically picked cotton.

The trend toward mechanical pickers is inevitable and the McPherson Co. is now in the process of making a thorough survey of mills to determine the effect of mechanically picked cotton on the following factors of production: (1) blending, cleaning and opening; (2) spinnability of staple, and (3) quality of yarn. The objective of this investigation is to devise methods, machinery and operations that will give the best results from mechanically picked cotton.

The procedure is to review the published reports of laboratories who are working on problems raised by this type of cotton. Much information is available from such sources. The McPherson Co. is also interviewing and checking with experimental stations, farmers, ginners, gin manufacturers, cotton mills, textile finishers, cotton associations, cotton merchants, textile machinery manufacturers and engineers. A questionnaire is also being used to obtain factual data on the use of mechanically picked cotton. When all the facts and data have been gathered, its study may well indicate improvements necessary to efficiently handle mechanically picked cotton.

Survey Shows Male Preference For Cotton

Men prefer cotton next to their skin! This significant preference by the American male is revealed in a nationwide survey just released by the Department of Agriculture's Bureau of Agricultural Economics in Washington, D. C. When government interviewers asked a cross section of male users, representative of more than 50 million consumers, why they preferred cotton in garments above all other fibers, they reported: (1) Cotton is comfortable to wear; (2) cotton is washable and durable; and (3) cotton

makes a fine appearance. In the case of such men's furnishings as shirts, underwear and pajamas, the government survey finds that two-thirds of those questioned unanimously picked cotton. In other lines such as trousers, Summer suits, and robes, there was overwhelming preference for cotton over synthetic fibers. In the case of cotton socks for year-round use, these are preferred by more men than socks made of either wool, or rayon, or mixtures of the two.

The survey of the Agriculture Department was undertaken with the view that information about consumer preferences provides a valuable clue not only for those dealing with problems of marketing finished clothing products, but also for those concerned with technical phases of fiber improvements or with the design, manufacture and fabrication of clothing. "To a very considerable extent" the survey states "these preferences . . . determine the final choice of the consumer and consequently the ultimate use made of various farm products in these particular articles of clothing." The men's preference survey is a companion study to the women's preference report prepared in December, 1947. A third survey on infants' and children's wear is now in the planning stage. Funds for the men's survey were provided under the Agricultural and Marketing Act of 1946. The National Cotton Council co-operated with B. A. E. in formulation of plans for the survey and is assisting in the distribution of the results.

Development Of New Type Machines Urged

William A. Sipprell, president of H. & B. American Machine Co., stated recently that the American textile machinery industry will have to spend considerable time and money in developing new machines and processes if it is to keep its world lead in that field. Addressing the Rhode Island Association of Financial Analysts, Mr. Sipprell declared that there had been little change in textile machinery processes in the last 50 years. "Revolutionary changes still remain to be made," he said, "and American industry must do it." He warned that America has no monopoly on genius, pointing out that Italy, France and England are doing considerable development work in the textile machinery field. Mr. Sipprell expressed the opinion that the present recession in textiles which has greatly affected machinery manufacturers would be ironed out within six months, stating that textile difficulties, the result of high inventories and high prices, ought to adjust themselves by that time.

Draper Loom Sales Up 32 Per Cent In 1948

Thirty-two per cent more looms were built and shipped by Draper Corp. during 1948 than in the previous year, it has been disclosed by Thomas H. West, president, in the firm's annual report. The quantity of bobbins and shuttles shipped increased about ten per cent, while tonnage shipments of loom repair parts remained at approximately last year's all-time high. The 1948 earnings, Mr. West said, were the most satisfactory in many years. This, the report went on, "was made possible by the utilization over a period of several years, of a large portion of the corporation's accumulated savings, which have been reinvested in expanded plant and tool facilities."

Altogether about \$1,500,000 in excess of depreciation was expended for capital improvements during the past year. The largest single plant outlay during 1948 was for

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It was also reported that during the past fiscal year more than half a million dollars was spent on research and development work in fields other than the perfection and improvement of the regular products.

Textile Wet Processing Show Announced

Representatives of the wet processing branch of the textile industry will converge on New York City June 6-10 for the Textile Wet Processing Equipment and Supplies Exposition to be held at the 71st Regiment Armory, 34th Street and Park Avenue. This is said to be the only show of its kind ever held with every exhibit geared to the interests of those engaged in the bleaching, dyeing, printing, mercerizing and finishing of all textiles. No spinning, weaving or knitting machinery, or any equipment for the making of textiles will be shown. The affair is expected to attract a large attendance. More than 350 of the most important companies in the field have already requested complimentary trade guest tickets for their top executives and purchasing agents, it is reported.

Wool Industry Urged To Promote New Items

The woolen industry must create more news for wool fabrics if wool is to retain its position in the interest of the consuming public and in their buying preferences, according to Ernest J. Conway, president of Bocon Chemical Corp., in an address April 14 before the meeting of the National Association of Wood Manufacturers. "Wool has had such a toe-hold on the market from the origin of the industry until very recent years that it has only been necessary for the manufacturer to keep up with a few style changes and wait for the population to increase," he said, adding "but in the face of a competitive market we need something more . . . we need something more basic, something more competitive, something more newsworthy that we can promote and that our retailers can promote." Mr. Conway cited shrinkage control in washing, water-repellancy and moth-proofing finishes as several possible items for immediate newsworthy promotions of woolens currently available to the manufacturer.

Finishers Group To Meet May 11

The next general meeting of the National Association of Finishers of Textile Fabrics will be held May 11 at the Statler Hotel, New York City. Alice C. Moore, secretary of the group, announced that the annual outing and golf tournament has been set for June 14 at the Baltusrol Golf Club at Short Hills.

Standardized Soiled Fabric Is Developed

According to a recent announcement by B. S. Van Zile, head of the soaps and detergents laboratory of the United States Testing Co., an actually standardized soiled fabric has

been developed by the laboratory which, according to tests run during the past few months, meets every requirement for detergency tests on both cotton and wool fabrics. For more than a year this development has been under way, including the building of the largest machine for producing soiled fabrics in the country.

In describing this contribution to soap and detergent test methods Mr. Van Zile said, "We believe that our standard soiled fabrics are the only ones offered to industry that are actually standardized. Our fabrics are soiled by immersion in a solution of mineral and vegetable oils in which colloidal carbon black is suspended. The concentration of this soiling solution is so adjusted that the final reflectance of the fabric is 25 per cent, plus or minus two per cent. At this reflectance level the oil content of the cotton fabric is approximately 1.0 gram per square yard and that of the wool fabric 1.5 gram per square yard."

After soiling, the fabrics are heat-treated to accelerate the aging process which becomes complete in about six weeks. The average reflectance of each batch of fabric is then accurately determined and light and dark areas, if any, are separated. While the average reflectance is held to a tolerance of 25 per cent, plus or minus two per cent, the actual difference in reflectance of any one batch is usually less than plus or minus one per cent. Thus, after careful sorting, the reflectance of any one piece is practically constant.

After proper aging, samples of each batch of fabrics are washed in a standard detergent solution in a Terg-O-Tometer under very accurate controlled conditions. Only those fabrics that show a soil removal (increase of reflectance) of 20 per cent plus or minus two per cent are used. Fabrics so

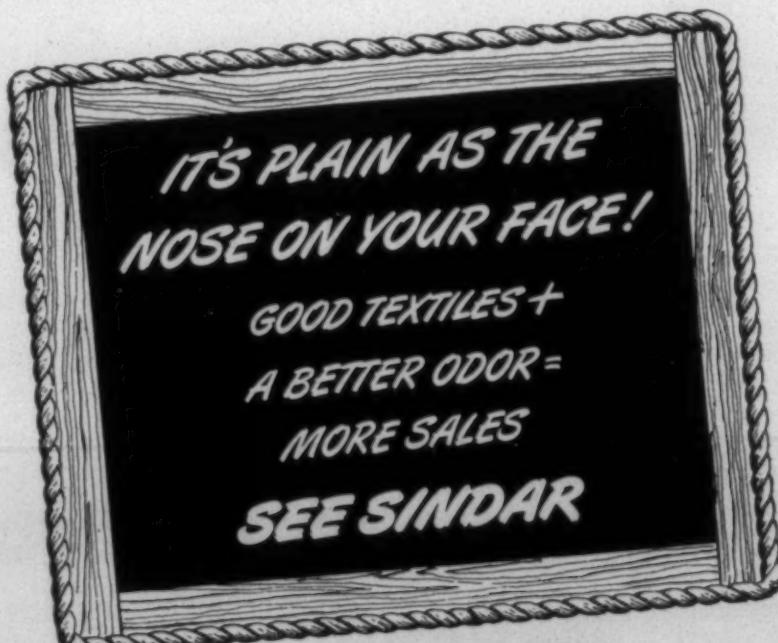
standardized have been shown to give reproducible results from week to week and month to month. If stored in a dust-free atmosphere at room temperature and not in direct sunlight, the fabrics remain constant in their performance over many months. One batch of soiled cotton was tested periodically and after four years the washing characteristics were well within the limits of reproducibility of the method of test.

Lowell Textile Alumni Plan Celebration

The Alumni Association of Lowell (Mass.) Textile Institute will celebrate its 50th anniversary May 13-14 with meetings in Boston and Lowell. A highlight of the golden anniversary will take place Saturday, May 14, when it is expected that the largest gathering of Lowell Textile alumni in the history of the association will witness the laying of the cornerstone of the new quarter million dollar Alumni Library. At the same time, the two new student dormitories will be formally dedicated in the presence of visiting dignitaries.

Personnel Testing Institute Slated May 16-27

An Industrial Personnel Testing Institute will be conducted at North Carolina State College, Raleigh, May 16-27. The institute is being conducted by the department of psychology in co-operation with the division of college extension. The institute program is aimed at representatives from firms in which the installation or improvement of a testing program is planned. The course of study will provide information and training in the following aspects of psychological



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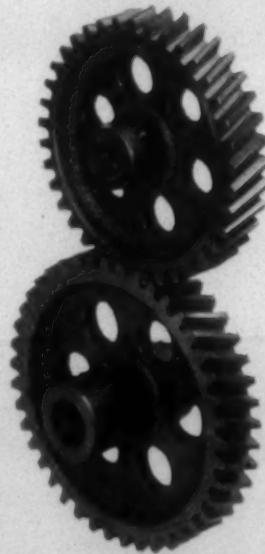
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testing; standard practices in the administration of tests; study of various types of tests; what tests to use for different jobs; where and how to obtain tests; how to try out tests for each kind of work; how to interpret test results; how to test visual skills with relation to job replacement; what to expect of tests; how to use test results in conjunction with the interview, letter of recommendation and application blank; study of the actual planning, scheduling and evaluation of a psychological testing program; analysis of research data; reporting results and recommendation to management; evaluation of economic gains from testing; and practical application of test results to individual cases.

S. T. A. Unit Holds Spring Meeting

The Spring meeting of the Northern North Carolina-Virginia Division of the Southern Textile Association was to have been held April 30 at Leaksville, N. C., with the Spray (N. C.) Cotton Mills acting as hosts for the event. Featured speaker for the event was Luther H. Hodges, vice-president of Marshall Field & Co. and general manager of Fieldcrest Mills, Spray, on the topic "What Is Ahead in Textiles—Immediate Future and Long Range." Panel discussions scheduled included: "What Is Ahead in Industrial Relations in Textiles," led by Macon P. Miller, director of industrial and public relations at Fieldcrest Mills, assisted by two other outstanding men of the personnel field; "Carding," led by Ralph Going of the Fieldcrest plant at Draper, N. C.; "Spinning," led by Irving Payne of Dan River Mills, Danville, Va.; and "Weaving," led by Lewis Kuepferle of Cone Mills Corp., Greensboro, N. C.

Walter Vincent of Dan River Mills, chairman of the group, called the meeting to order and the guests were welcomed by Karl Bishopric, president of Spray Cotton Mills. New members to the group's executive board were to have been elected during the meeting.

International Cotton Committee Meets

The American cotton industry will be represented officially at the ninth annual session of the International Cotton Advisory Committee in Brussels, Belgium, April 25-30, by Read P. Dunn, Jr., of Washington, foreign trade director of the National Cotton Council. William Rhea Blake, executive vice-president of the Cotton Council, said April 22 that Mr. Dunn had been appointed officially by the State Department to serve as the American delegation's industry advisor. Mr. Dunn was scheduled to fly to Belgium on April 24, accompanied by Caffey Robertson, Memphis, Tenn., cotton merchant and civic leader, named recently as foreign trade advisor to the Cotton Council.

Members of the U. S. delegation to the advisory committee meeting other than Dunn include: chairman, E. D. White, cotton assistant to the Secretary of Agriculture; C. D. Walker, chief, cotton branch, U. S. D. A.; A. W. Palmer, chief, cotton division, Office of Foreign Agricultural Relations; J. G. Evans, State Department; and Rene Lutz, textile and leather branch, Department of Commerce.

The conference in Brussels is expected to deal mainly with means for improving international statistics on production, distribution and consumption of cotton. Following the cotton advisory committee session, Mr. Dunn and Mr. Robertson will make a detailed survey of conditions affecting U. S. cotton exports in major European markets. Studies will be

made in Belgium, Holland, Denmark, Poland, Czechoslovakia, Germany, Italy, Spain, Switzerland, France and England. Mr. Blake said that the council study in Europe has as its goal devising methods of: (1) improving and expanding U. S. cotton exports under the E. C. A. program; (2) establishing credits for cotton in countries not now eligible for E. C. A. aid, such as Spain; (3) expanding cotton exports to eastern Europe through East-West trades; and (4) maintaining a high level of cotton exports after the European aid program ends.

A recognized authority on international trade, the council's new foreign market advisor has served frequently as spokesman for the cotton industry in conferences with heads of various government departments and agencies in Washington. Mr. Robertson is chairman of the board of directors of the Memphis International Center. He served several terms as president of that organization. Currently he is in the midst of his second term as president of the Memphis Chamber of Commerce.

Industrial Physicians To Hold Seminar

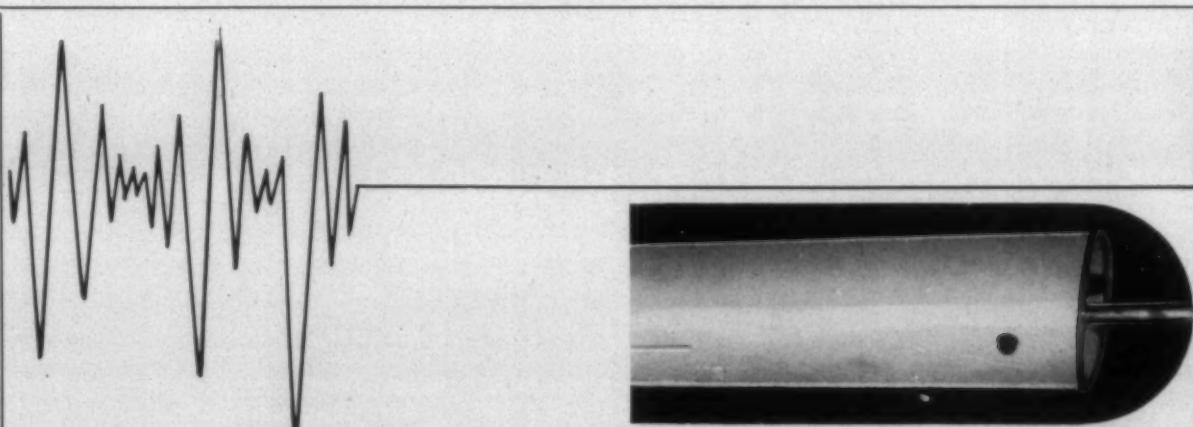
How physicians and surgeons can contribute to the administration of newly enacted workmen's compensation laws will be a major theme of a Seminar on Industrial Medicine and Surgery to be held May 30-31 at the Robert E. Lee Hotel, Jackson, Miss. Over 150 leading industrial physicians and surgeons from Mississippi, Arkansas, Tennessee, Louisiana and Alabama are expected to attend. The meeting, sponsored by the American Mutual Liability Insurance Co., will be 15th in a series held for country-wide dissemination of most advanced information on care and

treatment of the industrially injured. The American Mutual's entire medical seminar program is under the direction of A. Dudley Britton, Boston, director of medical relations for that company. Featured parts of the Jackson meeting will be motion pictures showing operating room technique and terminal sterilization.

Milliken Re-elected by I. T. T. Board

Roger Milliken, president of Deering Milliken & Co., New York City, was re-elected chairman of the board of the Institute of Textile Technology, Charlottesville, Va., at the annual meeting of the board which was held in connection with the Annual Executives' Conference sponsored by the Institute on April 8. The other officers elected include: Joe L. Lanier, vice-president of West Point (Ga.) Mfg. Co., elected vice-chairman; Ward Delaney, Charlottesville, re-elected president; Arthur M. Allen, Hinckley, Allen, Tillingshast & Wheeler, Providence, R. I., re-elected secretary; Norman E. Elsas, president of Fulton Bag and Cotton Mills, Atlanta, Ga., re-elected treasurer.

At the annual membership meeting which was held prior to the board meeting the following were elected to the board of trustees: T. M. Bancroft, president, Mt. Vernon-Woodberry Mills, Inc., Baltimore, Md.; Herman Cone, president, Cone Mills Corp., Greensboro, N. C.; Julian T. Hightower, vice-president, Thomaston (Ga.) Mills; Charles H. Merriman, Jr., vice-president, Crompton-Shenandoah Co., Waynesboro, Va.; Charles B. Nichols, president, Appleton Co., Anderson, S. C.; R. W. Philip, vice-president, Callaway Mills Co., LaGrange, Ga.; Walter Regnery, president, Joanna (S. C.) Cotton Mills Co.; and S. H. Swint,



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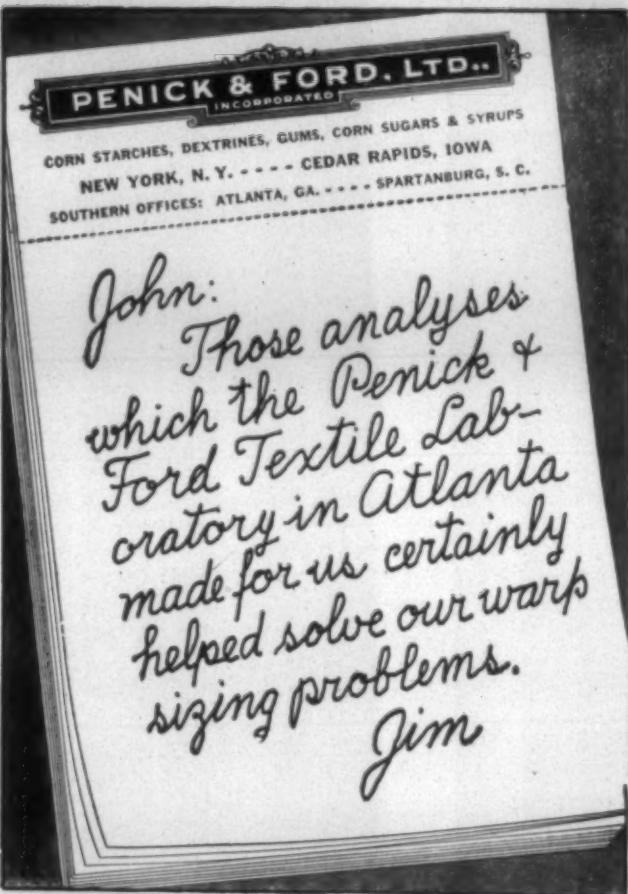
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president, Graniteville (S. C.) Co. Plans were made for a series of seminars to be held at the institute for the outstanding graduates of the nation's textile schools. Details of this plan have not been worked out.

Dr. Warren F. Busse, technical director, in introducing a series of presentations by staff members on the work under way in the cotton field, emphasized the importance of learning more about the things a cotton mill buys and sells as the first step in reducing costs. Anything which would save even one per cent on the 200 million dollars a year spent for cotton would amount to a sizable figure, he noted. Predictions of yarn spinnability or yarn or skein strength from the cotton would be enormous aid to production, he noted. A review of the research activities noted work on 11 aspects of cotton fibers, plus rayon, wool and other fibers.

The first graduation ceremonies of the institute have been set for June 25, at which time 12 students will receive their master's degrees following two years of work, it was made known by Dr. George H. Coleman, dean. Seven of the 12 are planning to continue work for an additional two years to obtain their doctorates.

Comer To Address Spinner-Breeder Parley

The keynote address at the Spinner-Breeder Conference, scheduled for Charlotte, N. C., May 30-June 1, will be made by Hugh Comer, president and treasurer of Avondale Mills, Sylacauga, Ala., according to an announcement by George B. Walker, chairman, Delta Council Advisory Research Committee. Mr. Comer will speak at the opening session May 30. The conference, which will be the sixth in a series of such meetings sponsored by Delta Council, is being held in mill territory this year with the Southern Combed Yarn Spinners Association as host. Fred L. Smyre, president, Southern Combed Yarn Spinners Association, will preside at the opening session. The meeting was held last year at Stoneville and Greenville, Miss.

Leading cotton breeders, mill men, producers, ginners, merchants and research workers will participate in the three-day program. Panel discussions of "Varieties, Testing and Market Outlets," and "Mechanization, Ginning, Cleaning and Processing" will be of especial interest to conference attendants. One day will be devoted to a series of mill tours. Visits will be paid to mills processing cotton for tire cord and to carded and combed yarn operations. Arrangements have been made with hotels in Charlotte to accommodate visitors at the meeting. Reservations should be made direct with the hotels and as early as possible.

National Science Foundation Is Urged

The condition existing today whereby agriculture generally, and cotton in particular, lags behind industry in scientific progress can only be remedied by a full-sized research program, the National Cotton Council has just urged in testimony supporting legislation to establish a National Science Foundation. The council's statement submitted to the House Subcommittee on Public Health, Science and Commerce, headed by Representative J. Percy Priest (D., Tenn.) outlined cotton's basic problems as follows: (1) Raw cotton's industrial competitors have been able to improve their products, both quality and cost-wise, through fundamental and applied research; (2) those most concerned with cotton's competitive status are mainly small farmers, spread across 18 cotton producing states, and not

able to finance or otherwise provide the necessary research program; (3) cotton has experienced a weakening competitive position.

The council's statement pointed to passage of the Research and Marketing Act of 1946 as a pioneer step in the direction of according research equality to agriculture. The Cotton Council notes in this connection, however, that "while the Research and Marketing Act is proving valuable in easing cotton problems, it is by no means doing all that needs to be done. Furthermore, it is felt that adequate application of the Research and Marketing Act is endangered by too limited a store of fundamental knowledge needed as a background for effective attack on cotton's problems." Therefore, the council maintains, establishment of a National Science Foundation to encourage basic research as a means of gaining further understanding of nature and its laws is essential to continued progress. The council's statement also stressed the fact that implications of federally financed research extend beyond any single industry, and are important to all of them. At the same time, such a program as proposed in the National Science Foundation legislation could hardly fail to provide basic research on America's most abundant resources such as cotton and the cellulose of which it is composed.

Book Themes Employer Hiring Practices

Workers Wanted, fourth volume in the Yale Labor and Management Series, has been published by Harper & Bros. of New York and is now available to those interested. The

book is designed to be of help to all employing executives, to labor union leaders and to all others who are interested in improving the process of employment placement. The authors, E. William Noland and E. Wright Bakke, carefully evaluate the characteristics employers think they want when hiring new workers of different types, and how they go about determining the existence of the desired qualities. The book specially analyzes the hiring requirements and preferences of employers for the following types of worker: common labor, production workers, maintenance and clerical workers, and administrative and executive assistants. The authors have based their work on employers' hiring policies, preferences and practices in New Haven, Conn., and Charlotte, N. C. Mr. Noland is a former vice-president in charge of public relations for R. S. Dickson & Co. of Charlotte, N. C., resigning that position several months ago to become professor of statistics and sociology and associate director of the Institute for Research in Business and Economics at Iowa University. He is also a former research assistant of the Yale Labor and Management Center. Mr. Bakke is director of the Yale Labor and Management Center.

High School Teachers Tour Textile Plant

Success of a pilot meeting and plant tour by New England high school teachers of the Crown Mfg. Co., textile plant at Pawtucket, R. I., early in April where they saw practical application of science in industry has led to plans for expansion of the program. Meetings are now being planned in Maine and North Carolina. The tour and discussion

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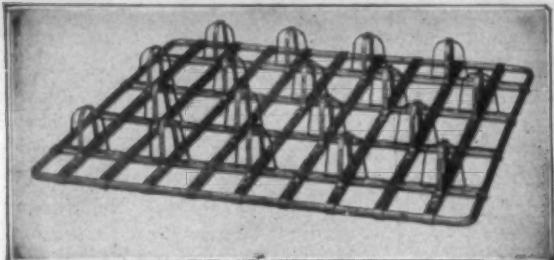
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which followed were sponsored by the New England School Science Council, and the Textile Information Service. The council, organized in 1947, is sponsored by the American Academy of Arts and Sciences and the Boston Museum of Science. Teachers found scores of examples of scientific principles from aerodynamics to industrial psychology applied in the plant.

Dean Simon Williams of the Lowell (Mass.) Textile Institute sounded the keynote for the event when he told teachers that schools alone are unable to do a rounded educational job. "We are guilty of overlooking the educational facilities of industry," Dean Williams declared. "Industry is willing to meet us more than half way. We need to catch some of the excitement of science in action. We need the broadened perspective which comes from familiarity with the perspective of environments different than our own." K. B. Cook, vice-president of Crown Mfg. Co., and president of the Rhode Island Textile Manufacturers Association, echoed Dean Williams' remark about willingness of industry to work with educators and emphasized that the future of the United States depends in large degree on the quality of the "product" developed by the schools. "Science teachers need awareness of the potentialities of industry for their students so they may integrate their teaching with practical needs," Mr. Cook added.

At a discussion meeting following the two and one-half hours plant tour by some 40 teachers, the visitors voted unanimously to continue the tours through varied industries. About 75 per cent declared their eagerness to visit another textile plant this Spring. Significantly, although the teachers were from a textile area, only two had ever before visited a textile plant.

Cotton Council Offers Reference Booklets

Fifteen reference publications offering valuable information to the raw cotton, textile and garment industries are currently available from the National Cotton Council's utilization research division, the council announced recently. Publications included in the listing range from detailed studies of cotton's long-range competitive position to surveys of cotton market potentials in individual industries and end-uses. The list includes: *Cotton Counts Its Customers*, *Discovering Cotton*, *Cotton in Plastic Laminates*, *The Competitive Position of Cotton by Major End Use Markets*, *Production Studies of Synthetic Fibers and Paper*, *Cotton Research Proposals*, *Women's Preferences Among Selected Textile Products*, *Cotton in Coated Fabrics*, *Margarine, One of Cottonseed Oil's Best Customers*, *Cotton in the California Apparel Industry*, *Cotton in the Shoe Industry*, *Deodorants and Antiperspirants—Their Effects on Textile Fabrics*, *Cotton in the Converting Industry*, *Cotton in the Knitting Industry*, and *Cottonseed Oil Uses, Consumption and Competition*. Single copies of all publications may be obtained without cost by writing to Utilization Research Division, National Cotton Council, P. O. Box 18, Memphis 1, Tenn.

Durene Group Opens Advertising Campaign

Implementing a consumer advertising campaign which will appear as a series of 15 full pages in full-color in *Ladies' Home Journal*, *Good Housekeeping* and the *Saturday Evening Post* beginning this month, the Durene Association of America has announced a five-way direct mail and

sales literature campaign of significance to the cotton textile industry from yarn level to point of sale of finished merchandise. A. C. Layton Newsom, executive secretary of the association, revealed the details of the campaign, describing it as a series of five forceful and attractive mailing pieces; each of which has been designed to do a specific selling job for merchandise of Durene yarn.

No. 1 of the series outlines the functions of the Durene Association of America and its purposes; No. 2 answers specifically questions about the product, itself; No. 3 graphically points up methods of quality control; No. 4 gets down to bedrock and tells the store manager just what he can expect since the number of Durene identifications rose to more than 290 million last year; No. 5 illustrates to the manufacturer the value of a Durene label or transfer on his product. While the series is designed to tell the whole Durene story, each piece has its own definite target. The broad purposes of the literature are to give a real assist to salesmen in talking Durene quality with retailers. The emphasis throughout is placed on "sales plus" for manufacturers and retailers as well as consumers.

More Cotton Research Projects Seen

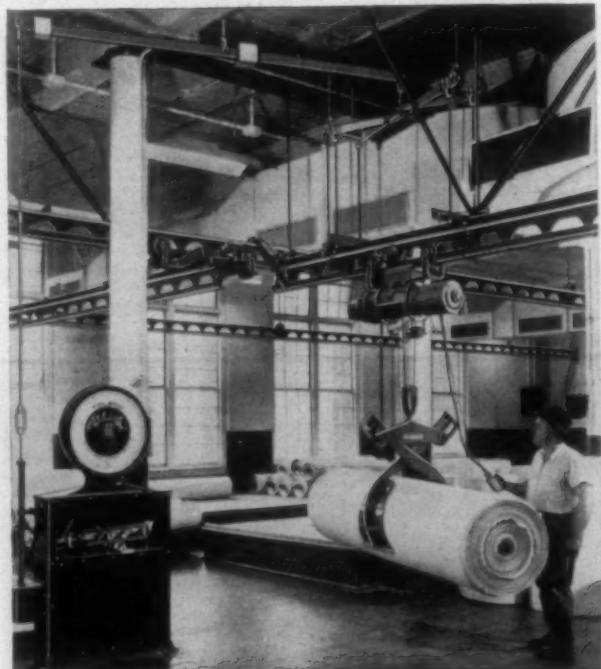
Recent approval by the House Appropriations Committee of the full \$19 million requested in the Administration's 1950 Research and Marketing budget makes likely the placement of more cotton research projects, the National Cotton Council believes. The council said that two observations

made by the Appropriations Committee in approving the full amount of funds requested have special significance. First, the committee stated that the past practice of approving appropriations without detailed justification as to line projects was unsound and could lead to waste. The committee secondly pointed out that the Research and Marketing Act was designed to encourage the Department of Agriculture to let contract research projects with outside agencies and private laboratories and that more of these contracts should be placed.

Council officials declared that the cotton organization is in full accord with the committee recommendations. They said that the council has long recommended that specific projects be fully described to insure economy and proper emphasis. They likewise said that the council since the inception of the act has urged that more contract research projects be activated, especially in laboratories equipped to cope with specific cotton problems. "Contract projects are invaluable not only as to results, but in stimulating cotton research thinking in different areas," a Cotton Council representative said. "To date only six projects have been placed. The House committee's recommendation in this regard would appear to offer real hope that further action along these lines now will be stimulated."

The House has approved the full allowance for Census Bureau statistics, including cotton, as provided in the President's 1950 budget. The over-all sum of \$5,750,000 was granted by the lower House representing an increase of \$115,000 over last year. Most of this increase, however,

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will be required for reinstatement of foreign commerce and navigation studies. Census officials do not anticipate a cut by the Senate which is considering the measure now although there is still strong sentiment for reinstatement of other industry studies. Approval by the upper chamber is expected soon.

The Congressional action on Census Bureau statistics means that reports such as production of cotton broad woven goods, cotton ginning, and exports and imports of raw cotton and cotton goods will be continued. Various apparel surveys will also be conducted as in the past. The possibility does exist that all statistical studies will be curtailed slightly since the House committee report specifically stated that monthly reports on stocks of canned food be provided. In the past these studies had been restricted to a quarterly basis for economy reasons. With 12 canned food surveys now required, it is estimated that an additional cost of about \$30,000 must be borne by census. Other projects will have to be curtailed proportionately to absorb this outlay. Spreading this cost among all the studies, however, will have only a small effect on any one project, it is pointed out. The National Cotton Council has worked actively in support of census appropriations which would assure continuation of reports and surveys widely used by the raw cotton and textile trades.

Executives Write Book On Teamwork

Executives of Johnson & Johnson, manufacturer of hospital supplies, with home offices at New Brunswick, N. J., have written a timely book devoted to the improvement of teamwork and of productivity throughout business and industry. The book bears the title, *Training Employees and Managers for Production and Teamwork*, and shows that training within industry is the solution to the indifference, inefficiency and lack of teamwork which exists in many offices and shops today.

Published recently by Ronald Press, the book was written by William McCord, director of industrial relations for Personal Products, a J. & J. subsidiary; Dr. Earl Planty, executive counselor at Johnson & Johnson; and Dr. Carlos Efferson of Gainesville, Ga., staff training director for Chic-

opee Mfg. Co. of Georgia, another J. & J. subsidiary. The book emphasizes the need for co-operation, teamwork and increased productivity in all areas of life today and goes on to tell how to obtain it through training of all sorts. On the supervisor and executive level there is training in grievance handling, constructive discipline, morale building, costs and finances, planning and organizing, conference leadership, self-improvement, waste reduction, labor relations and a host of other general and specific subjects.

Earnings Of Workers To Be Studied

Occupational earnings of workers in the textile industry, important to the South, are being studied in selected areas by the U. S. Bureau of Labor Statistics, through its regional office in Atlanta, Ga., it was announced recently by Brunswick A. Bagdon, regional director of the Southern regional office. Straight-time average hourly earnings and related information, as well as data on the length of the workweek, will be collected through personal visits by the wage analysis staff of the Southern regional office. The survey is in response to a demand for wage information in this key industry. The cotton and rayon branches of the textile industry are to be studied. Locality studies of cotton textiles will be made in the following areas: east central Alabama, northwest Georgia, the Charlotte and Statesville areas in North Carolina, and the Greenville-Spartanburg, S. C., area. Rayon studies will be conducted in the Charlotte and Greensboro-Burlington areas in North Carolina, the Greenville, S. C., area and in the western section of Virginia. It is estimated that more than 70 occupational classifications covering approximately 100,000 workers will be studied. The information will be available to interested parties about July 1. Copies of the reports may be obtained by addressing Brunswick A. Bagdon, Regional Director, 1029 Grant Building, Atlanta 3, Ga.

Dr. Hugh Brown Heads School Deans

The demand for employment of textile school students who will be graduated this June from the nation's various textile schools continues just as strong as it was last year,

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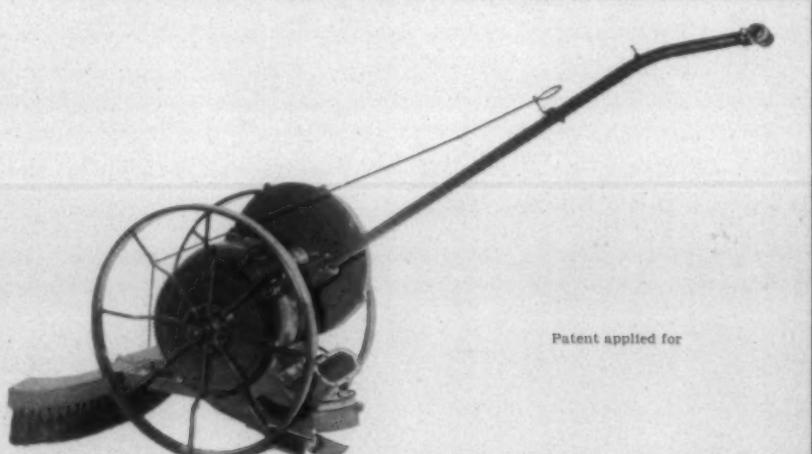
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William D. Fales, head of the Textile School of the Rhode Island School of Design, told the National Council of Textile School Deans which held its semi-annual meeting at the Institute of Textile Technology in Charlottesville, Va., March 21-23. The textile schools will graduate a total of 818 students this year, an all-time record, according to Mr. Fales, but despite this large number, the demand for their services in the industry is also at a peak. The number of last year's graduates also set a record, and the educators felt at that time that the employment demand would show a decrease this year. But, surprisingly enough, this has not proved to be the case, Mr. Fales told the council.

Dr. Hugh M. Brown, dean of the Clemson College Textile School, was elected president of the council at the concluding session of the three-day convention. He was elevated from the vice-presidency. Other officers elected included Richard S. Cox, dean of Philadelphia Textile Institute, vice-president, and Edward T. Pickard, Textile Foundation, Washington, D. C., re-elected secretary-treasurer.

Kenneth R. Fox, president of Lowell (Mass.) Textile Institute, announced plans for a textile teachers' conference to be held at Lowell this June. This will be the first meeting of its kind, Mr. Fox said.

The part that research should play in the textile schools was the subject of a discussion led by Malcolm Campbell, dean of School of Textiles at North Carolina State College. Mr. Campbell pointed out that the textile industry is becoming more and more research-conscious. A number of other discussions occupied the deans. These included such subjects as the relative merits of a general education in the textile field against individual specialization; consideration of a one-year textile course for liberal arts graduates; and the accrediting of textile engineering education.

New Bedford Textile Institute Honored

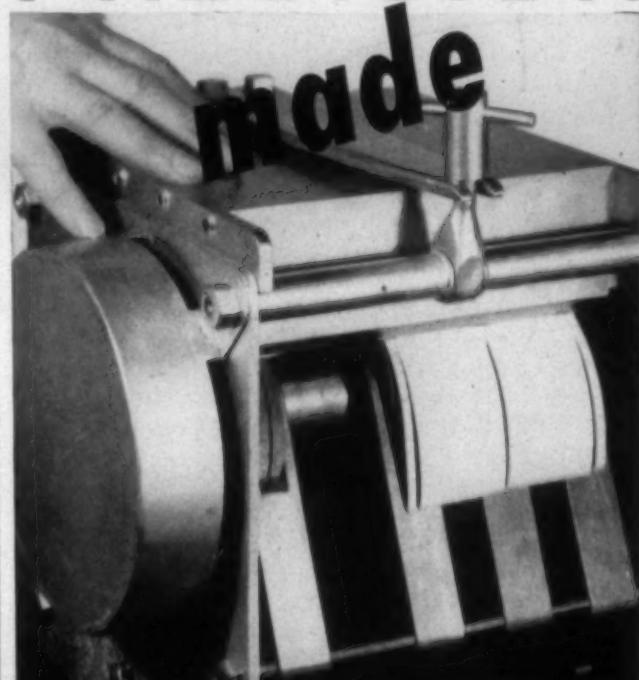
The New Bedford, Mass., Board of Commerce was the sponsor March 12 of a testimonial dinner honoring the elevation of the New Bedford Textile Institute to a four-year college level establishment. Several hundred business, civic and industrial leaders along with state and local government and labor officials gathered for the occasion. The expanded courses at the institute, as approved by the collegiate authority, permit the school to officially offer to September, 1949, freshmen curricula leading to degrees of Bachelor of Science in textile engineering, textile chemistry or machine design.

Fiber Society Holds Spring Meeting

About 60 specialists, interested in the chemical and physical properties of fibers, attended the Spring meeting of the Fiber Society held recently at Clemson College, Clemson, S. C. The three-day session was high-lighted at a banquet with an address by W. F. Busse, technical director of the Institute of Textile Technology at Charlottesville, Va., on "Some Trends In Textile Research." It was announced that the society would hold its Fall meeting Sept. 8-9 at the Lowell (Mass.) Textile Institute.

Others heard at the meeting, in addition to Mr. Busse, were W. E. Roseveare of E. I. du Pont de Nemours & Co., Inc.; Herbert F. Schiefer of the National Bureau of Standards; Thomas Kerr and Norma Pearson, both of the Plant Industry Station, Beltsville, Md.; Hugh Brown of the Clem-

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son Textile School; Carl Conrad and V. W. Tripp, both of the Southern Regional Research Laboratory, New Orleans; James G. Krieble of the Textile Research Institute, Princeton, N. J.; and J. B. Goldberg of J. P. Stevens Co., New York.

Wool Manufacturers Re-elect Arthur Besse

Members of the National Association of Wool Manufacturers, at their annual meeting April 13-14 in New York City, were told that the \$25,000 fund for study of the best means of promoting apparel already is on hand and that preliminary steps are being taken to select an agency to conduct the research. Reporting on the present status of promotion projects, Edwin Wilkinson, assistant to the president of the N. A. W. M., revealed that the N. A. W. M. and the Clothing Manufacturers Association of the U. S. A. each had contributed \$10,000 to the fund, and the National Association of Retail Clothiers & Furnishers, \$5,000. The three groups form the National Men's and Boys' Apparel Committee to handle the details of the project.

Arthur Besse, association president, two vice-presidents and the secretary-treasurer were re-elected to office. Three new vice-presidents and 12 new directors were elected. Franklin W. Hobbs, William Whitman Co., Inc., and Moses Pendleton, American Woolen Co., were the vice-presidents re-elected. Walter Humphreys is the secretary-treasurer. Newly-named vice-presidents are Everett L. Kent, Kent Mfg. Co., Clifton Heights, Pa.; Frederic W. Tipper, Cascade Woolen Mills, Oakland, Me., and Harold J. Walter, Bachmann-Uxbridge Worsted Corp., Uxbridge, Mass.

The new directors named for three year terms are: James F. Dewey, A. G. Dewey Co., Quechee, Vt.; James J. Dugan, John T. Lodge & Co., Inc., Watertown, Mass.; Harry W. Gehman, Merion Worsted Mills, West Conshohocken, Pa.; Ralph Hubbard, Packard Mills, Inc., Webster, Mass.; R. L. Keeney, Somerville (Conn.) Mfg. Co.; Bryan Leonard, E. Weymouth (Mass.) Scouring Co.; H. W. T. Mali, Rhode Island Worsted Co., Stafford Springs, Conn.; Thomas Melville of Melville Woolen Co., Sykesville, Md.; Ronald A.

Mitchell, Cyril Johnson Woolen Co., Stafford Springs, Conn.; Ames Stevens, Ames Worsted Co., Lowell, Mass.; Robert L. Turnbull, Wanskuck Co., Providence, R. I., and Arthur O. Wellman, Nichols & Co., Boston.

In the annual president's address, Mr. Besse declared that there already are signs that clothing manufacturers are beginning to realize they must order piece goods for replacements. He said, "This is not the first time that this industry has experienced a period of hesitation at the start of a season. It probably will not be the last. But there is no likelihood that people are going to dispense with the products of the industry. There is business ahead and, let us hope, it will prove to be an expanding business."

Featured speaker at the association's annual luncheon was Senator Joseph C. O'Mahoney of Wyoming, who told the wool manufacturers that it was the task of capitalism to prevent depressions, to prove that business and government could co-operate to prevent crashes. Concerning the international situation, the Senator said he did not believe that Russia would launch an aggressive war, and expressed the opinion that the Russians are waiting for our economic system to collapse.

South Carolina Group To Meet May 19-21

The Cotton Manufacturers Association of South Carolina will hold its annual convention May 19-21 at Grove Park Inn, Asheville, N. C., it was made known recently by John K. Cauthen, executive vice-president. Program details will be announced later. L. O. Hammett, Chiquola Mfg. Co., Honea Path, S. C., is president of the group and J. B. Harris, Greenwood (S. C.) Mills, is vice-president.

Mr. Cauthen also made known that the first annual meeting of the association's cotton buyers division was to have been held April 29-30 at the Fort Sumter Hotel, Charleston, S. C. Speakers were to include U. S. Sen. Burnet R. Maybank (D., S. C.); Arthur K. Winget, Efird Mfg. Co., Albemarle, N. C., chairman of the American Cotton Manufacturers Association's cotton committee, who will lead a discussion on Southern mill rules, and Ward Delaney, president of the Institute of Textile Technology, Charlottesville,

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Va. The cotton buyers' organization is headed by T. D. Truluck, Deering Milliken & Co., Inc., Union, S. C., as chairman.

Textile Problems Face S. C. Lawmakers

The South Carolina general assembly has been busy in recent weeks considering measures concerned either directly or indirectly with the state's number one industry, textiles. Definite action has been taken in two instances. Textile mills with fenced-in property must maintain emergency employee exits under a general assembly act ratified April 15; and last month a bill that would have required industrial plants to install sewer systems in plant-owned employee houses was killed by the House of Representatives by a vote of 54 to 53.

No final action has been taken as yet on the highly-controversial "air-conditioning bill" although a modified bill received a favorable (11-10 majority) report from a general assembly committee April 13. Opponents of the original air-conditioning bill termed it as "anti-industry" and pointed out that its passage would have cost the industry in South Carolina about \$40,000,000. The modified amendment would lighten temperature requirements to a point where the bill's terms could be met with air wash, rather than refrigerated, air cooling systems as required in the original bill.

Measures yet to be considered, which would affect the textile industry, are bills to: set up a state labor relations board giving organized labor broad powers over labor relations; set a 50 cents-an-hour minimum wage in interstate

industries; and require written reasons for discharge of employees from industrial firms.

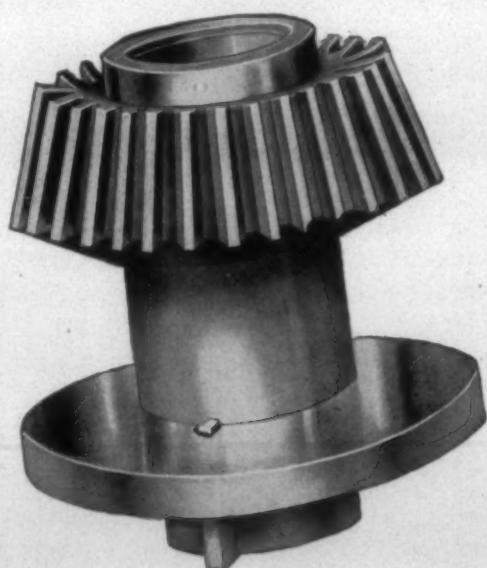
Georgia Cotton Manufacturers To Meet

Program details of the 1949 annual convention of the Cotton Manufacturers Association of Georgia, to be held May 4-6 at Daytona Beach, Fla., follow: Wednesday, May 4: Registration, 6 p. m. to 10 p. m.; dinner meeting of board of directors, and dancing. Thursday, May 5: Business session, 10 a. m.; golf tournament, 1 p. m.; reception, 7:30 p. m.; annual banquet, 8:30 p. m., and dancing. Friday, May 6: Business session, 10 a. m.; annual meeting of Textile Education Foundation, 2 p. m., and special party, 8 p. m.

QM Lowers Standards For Uniform Wools

The Army Quartermaster Corps announced last month it had lowered the standards of wool which will be used henceforth in the production of cloth for Army uniforms. The Army's action was the result of recognition that world supplies of fine wools of 60s or better, upon which Army specifications have been based for years, are no longer adequate enough to insure meeting all requirements in the future.

The new lowered standard for wool tops will be based upon graded commercial half blood wools, or the medium grades of wool, which are accounting for a constantly increasing proportion of world wool production. The Army pointed out that it desired to base its specifications for worsted fabrics upon a broader range of available wool



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grades. The Army also made it clear that present fine wool prices which have been bid up to record levels in world markets—from which this country secured two-thirds of its needs—also were a factor in the lowering of standards of wool going into its uniforms.

Based upon present wool market levels, the announcement said, the shift from fine to medium grade wools "would result in a saving to the government, even in peace time, of several million dollars annually. In fact, the saving to the government from this change of wool grade would "more than pay the cost of the entire Quartermaster Corps' research and development activities," it was said.

The new standards will not be used in the request for 18-ounce blue serge for Air Force personnel, bids of which were opened March 9, and will not be used "until specifically announced."

The new standard has been under study and test for some months and is the result of studies made by the research and development organization of the Quartermaster Corps working jointly with the Wool Industry Committee of the Quartermaster Association as a technical advisory group to the Department of the Army. While the new standard involves no basic change in the wool grade nomenclature, it has the advantage of utilizing an accepted commercial grade which will allow the use of a broader base of fibers than is included in the Department of Agriculture standard for 60s.

Textron Scholarships Given Two Schools

The A. French Textile School of the Georgia Institute of Technology, Atlanta, and the Clemson College Textile School, Clemson, S. C., have each been granted a Textron scholarship to assist in covering school expenses, during the senior year, of an outstanding junior student of the textile school. The award of \$500 for the 1949-50 term will be made on Honors Day at each school.

The Textron scholarship is part of a plan conceived by Royal S. Little, president of Textron, Inc., to further the efforts of deserving textile students. The winners are to be selected on the basis of both high academic achievement and outstanding leadership qualifications for future application to the textile field. Mr. Little believes that industry should assist talented young people, in order to help develop the tremendous human resources in this country for progress in all fields. In line with this objective, the recipient of the Textron scholarship will be perfectly free to choose his field of endeavor after graduation, and is not obligated to Textron in any way.

Stress Importance Of Color To Industry

Color's importance to business, especially in the near future, was stressed at the Spring meeting of the Piedmont Section of the American Association of Textile Chemists and Colorists held April 2 in Winston-Salem, N. C. A banker and a mill man emphasized this point and a third speaker considered the satisfactory retention of color, or wash fastness. William H. Neal, senior vice-president of the Wachovia Bank & Trust Co. of Winston-Salem, declared "color, styling and pricing become increasingly important as emphasis in business shifts from production to selling."

Mr. Neal, in discussing the business future from the

banker's viewpoint, declared that: "As we move into the business cycle to more normal conditions, with a buyers' market prevailing, every business must analyze its products critically, study buyers' habits and needs, improve quality and appearance, and step up its selling performance if it expects to keep ahead in a highly competitive period. I am confident we can avoid a severe or prolonged business slump. We cannot expect the transition from boom times of recent years to be easy and without problems in many lines of business."

Charles A. Seibert of E. I. du Pont de Nemours & Co., Inc., in discussing "What Is Satisfactory Wash Fastness and How It Can Be Measured," stated: "There is a prime difficulty in measuring and classifying wash fastness because there is not standard washing," he declared. His company, he told the chemists and colorists, is making a continuing survey to find a practical answer to the question. So far, the company has found that practically no two washings are alike. This, he observed, applies both to commercial and hand laundry washings. When a complete report is in on the survey and results are analyzed, researchers will be able to find an average. When that is established, then it will be possible to gauge color fastness in all sorts of materials as compared to a determined average.

J. Albert Crumley, superintendent of the Bryan Full Fashioned Mills, Chattanooga, Tenn., reminded the group that "You can do a lot of things with color. It can be used to create optical illusions, to make one slimmer or larger; to build up or stifle individuality; to bring out the best there is in an individual, and to augment and stimulate. A woman's emotions demand new colors." Three factors enter into color producing, he noted: the dyer and his dyestuff; the stylist and selling agent and the ultimate consumer who demands color changes often.

Industrial Safety Parley Slated May 4-6

Two textile sessions will be conducted during the North Carolina Industrial Commission's 19th annual Statewide Industrial Safety Conference to be held May 4-6 at Winston-Salem, N. C. Acting as chairmen at the textile sessions will be H. E. Williams, safety engineer at Fieldcrest Mills, Spray, and I. W. Drake of the industrial relations department of Burlington Mills Corp., Greensboro. Among others to be heard during these sessions are Charles L. Trommer of Mohawk Carpet Mills, Inc., Amsterdam, N. Y.; G. G. Fleming, safety engineer of Celanese Corp. of America, New York; and David T. Roadley, personnel director, the Kendall Co., Paw Creek, N. C.

Color Card Group Holds Business Meeting

A total membership of 2,269, the largest in the organization's history, was reported at the annual business meeting of the Textile Color Card Association March 21. Margaret Hayden Rorke, secretary and managing director of the group, revealed that the association gained 315 new members during 1948. She also reported that the number of color cards distributed during 1948 increased to 41,578, a gain of 5,600 over the previous year.

All present officers were re-elected: Roy E. Tilles of Gotham Hosiery Co., Inc., president; Armand Schwab of Armand Schwab & Co., first vice-president; John F. Warner of Riegel Development Laboratories, Inc., second vice-presi-

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dent; Carl E. Kempf of Brewster Hat Co., Inc., treasurer; and Mrs. Rorke, secretary and managing director. Two new directors named were Julius L. Foreman of Foreman Fabrics Corp. and Robert A. Ramsdell of the nylon division of E. I. du Pont de Nemours & Co., Inc. The following directors were re-elected: E. Irving Hanson of Hafner Associates, Inc.; Allan C. Jacobson of J. P. Stevens & Co.; Charles F. H. Johnson, Jr., of Botany Mills, Inc.; Mr. Kempf; W. Ralph MacIntyre of Joseph Bancroft & Sons Co.; James F. Marble of Waldrich Co.; Mr. Schwab; Mr. Tilles; Henry C. Van Brederode of Celanese Corp. of America; and Mr. Warner.

Textile Seminar Program Is Announced

The complete program of the fourth National Textile Seminar, sponsored by the Philadelphia Textile Institute for May 9-13 at Shawnee Inn, Shawnee-on-Delaware, Pa., was announced recently. The theme of the seminar is "The Textile Industry Looks Ahead," and seminar leaders will be Julius Goldberg, director of research for J. P. Stevens & Co., Inc., and Edwin Wilkinson of the National Association of Wool Manufacturers.

The meeting will open Monday evening, May 9, when the session, devoted to new fibers, will be addressed by Dr. G. Preston Hoff, manager of the technical division, rayon department, E. I. du Pont de Nemours & Co., Inc., and W. P. terHorst, general manager of the textile division, Virginia-Carolina Chemical Corp.

The morning session May 10 will hear Joseph A. Golden, head of the men's wear division of Burlington Mills Corp., speaking on new fabrics. A golf tournament is scheduled for the afternoon, and in the evening Dr. Paul A. Siple, military geographer of the Research and Development Branch of the Logistics Division of the General Staff of the U. S. Army, will speak on the geographical requirement of clothing.

Wednesday, May 11, the morning session will be devoted to a discussion of mutual problems of labor and management, with speakers to be named later. In the evening, Mrs. Margaret Harris Blair, professor of clothing and textiles at the University of Georgia, will speak on consumer needs, and Dorothy Liebes, fabric designer, will speak on development of style in textiles.

The morning session on Thursday, May 12, will hear a discussion of markets and methods of distribution by John H. Judge, executive vice-president, G. A. Stafford & Co., Inc., and vice-president, Textile Export Association, and another speaker to be made known later. The afternoon will be given over to golf and the evening session will be addressed by Henry Miller, Director of Trade Practices Conferences, Division of Federal Trade Commission, Washington, who will speak on the government's part in fair trade practices.

Friday, May 13, William H. Brown, treasurer, American Viscose Corp., will speak on the effect of taxation on a free economy at the morning session, and the seminar will close with a banquet that evening, which will be addressed by Raymond Moley of *Newsweek* magazine.

Alabama Cotton Manufacturers Elect Redmond

Paul A. Redmond, Jr., executive vice-president of Alabama Mills, Inc., Birmingham, was elected president of the

Alabama Cotton Manufacturers Association at the 11th annual convention of the group April 14-16 at Biloxi, Miss. Mr. Redmond, whose father, Paul, Sr., was president of the group during the 1939-40 term, succeeds as president Bert G. Stumberg, agent of Mt. Vernon-Woodberry Mills, Talladega. The association's new vice-president is Thomas D. Russell, president of Russell Mfg. Co., Alexander City, who had been treasurer of the association. Succeeding to the treasurership is D. Hamp Morris, III, of Geneva Cotton Mills, Geneva. Elected directors for three years were Fred Phillips of Buck Creek Cotton Mills, Siluria; W. B. Pennington of Anniston Mfg. Co.; and Homer M. Carter of Pepperell Mfg. Co. R. A. McMillan of Talladega Cotton Factory was selected to fill the unexpired term on the board of Mr. Russell, retiring treasurer.

In the annual president's address, Mr. Stumberg warned association members that the time has come to keep inventories at the very minimum. "I think we can safely say the year 1948 ended the post-war sellers' market for textiles. As we entered 1948, the demand for textiles was greater than the production but by the end of the third quarter, production came into balance with and then exceeded the demand, which resulted promptly in lower prices, followed by curtailed production in our industry. At the year's end, many mills were operating at reduced schedules to avoid increasing their overburdensome inventories."

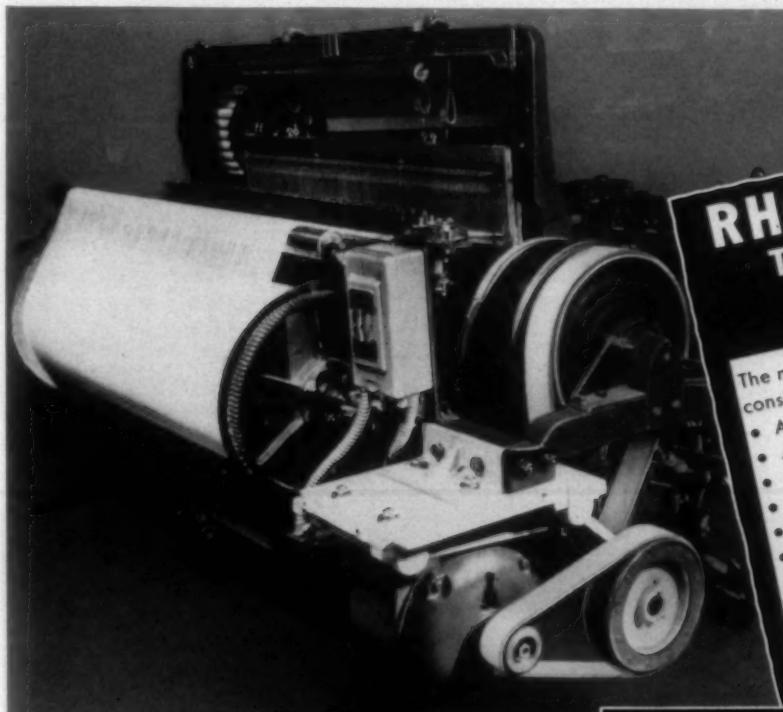
"In 1947 at our meeting," Mr. Stumberg continued, "we were warned about accumulating overburdensome inventories and keeping production attuned to sales. The time

has now arrived for our industry to follow this sound thinking and keep inventories at the very minimum."

The contribution of the textile industry to the progress of the South, and Alabama in particular, was stressed by two guest speakers: Dr. J. L. Brakefield, industrial department manager of the Birmingham Chamber of Commerce, and State Senator Bruce Henderson.

Winners were announced in the association's eighth safety contest and presentation of the Comer trophies was made at the convention by Fleetwood Connally, director of the Industrial Relations Department of the State of Alabama. The first award went to Huntsville Mfg. Co., in the weaving and spinning group. There have been no accidents at this mill during the year. Dallas Mfg. Co., Huntsville, also had no accidents during the year, but the award was given to Huntsville Mfg. Co. on the basis of hours worked. In the spinning group, the award went to Linen Thread Co., Blue Mountain, with California Cotton Mills Co. as runner-up.

Lafayette Lanier of West Point Mfg. Co., Riverview, with a score of 81, won the George H. Lanier cup (low gross for members) at the annual convention golf tournament. This is the first year the George H. Lanier cup has been in play. Second low gross for members went to Robert L. Reardon of West Point Mfg. Co., with a 92. He won in a tie tossup with Nat Davidson, also of West Point. Low net for members (suppliers' trophy) was won by Bob Argo of Alabama Mills Co., Birmingham, who scored 83-12-71.



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1948 Crop Lower Grade, Longer Staple

The average grade of the 1948 cotton crop was lower than that of 1947 but the average staple length was considerably longer, the U. S. Department of Agriculture announced in a cotton quality report. With the exception of last season's high grade crop, however, the grade of the 1948 crop is the highest since 1943. The grade index of upland cotton ginned was 95.7 (middling white equals 100) compared with an index of 96.9 for the 1947 crop and 94.5 for 1946.

The lower grade of the 1948 crop as compared with 1947 is attributed mainly to rapid harvesting required for the large crop, early November freezes, and frequent rainy spells in some areas. Improvement of the staple resulted from two factors: the increased acreage, and generally favorable growing conditions in the areas where the bulk of the medium lengths are produced in volume and smaller production in areas where shorter staples are mostly grown.

Grade of the 1948 crop is lower than 1947 in all cotton-producing states except North Carolina, Oklahoma, Texas, New Mexico and Arizona. The sharpest drop in grade occurred in Alabama, Mississippi and Arkansas. The average staple length of this season's ginnings was 32.4/32nds of an inch compared with 31.7 last season. The average staple was longer than last year in every state except Tennessee and California. The greatest increase in staple as compared with 1947 occurred in Mississippi, Arkansas, New Mexico and Arizona.

Ginnings of all kinds of cotton in 1948-49 totaled 14,540,000 bales. This is the largest crop since 1937 and compares with 11,557,000 bales ginned in the 1947-48 season and 8,517,000 two years ago.

The department said the 1948-49 supply contained much smaller quantities of strict middling and higher grade cotton and much larger quantities of middling, strict low middling and low middling. The 1948 crop contained small quantities of shorter staple cotton and much larger quantities of most lengths longer than one inch. The supply for this year contained over 10,000,000 bales of medium length cotton ($1\frac{1}{2}$ -inch through $1\frac{3}{2}$ -inch).

There has been a good demand for lower grade, short staple cotton during most of the season and these grades have moved into trade channels and for export in rather heavy volume. The movement of lower qualities out of supply stocks has resulted in late season stocks of relatively high quality.

March Spinning Figures Reflect Decline

The Bureau of the Census has reported that the cotton spinning industry operated during March at 106.8 per cent of capacity on a two-shift, 80-hour week basis. This com-

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pared with 112.3 per cent during February this year, and 133.6 per cent during March last year.

Spinning spindles in place March 31 totaled 23,787,000, of which 20,425,000 were active consuming cotton on the last working day of the month, compared with 23,741,000 and 20,758,000 for February this year, and 23,763,000 and 21,708,000 a year ago.

Active spindle hours for spindles consuming cotton for March totaled 8,922,000,000 compared with 7,966,000,000 for February this year and 11,005,000,000 for March last year.

Spinning spindles in place March 31 included: in cotton-growing states, 18,457,000, of which 16,363,000 were active, compared with 18,408,000 and 16,595,000 for February this year, and 18,278,000 and 17,094,000 a year ago, and in New England states, 4,844,000 and 3,677,000, compared with 4,843,000 and 3,781,000, and 4,972,000 and 4,186,000.

Active spindle hours for spindles consuming cotton for March included: in cotton-growing states, 7,620,000,000, compared with 6,811,000,000 in February this year and 9,151,000,000 a year ago, and in New England states, 1,056,000,000 and 1,704,000,000.

Large Drop In March Cotton Use

Cotton consumed during March amounted to 720,892 bales, a drop of 159,075 bales from the 879,967-bale consumption of March, 1948, the Bureau of the Census has made known. Consumption of cotton for the eight months ending March 31 was down to 5,565,131 bales from the 6,311,107 bales consumed during the corresponding eight months of the previous cotton year, a drop of 745,976 bales.

Cotton consumed during March included: in cotton-growing states, 648,313 bales, compared with 574,577 in February this year, and 775,727 in March of last year; and for the eight-month period, 4,972,199 bales, compared with 5,564,405 in the corresponding period a year ago. In the New England states, 57,574 bales, compared with 52,330 and 83,368; and for the eight-month period, 475,718 bales, compared with 599,624.

Inventories of cotton in the hands of the mills were down, while those in public storage warehouses and at compresses showed a sharp increase, nearly double the figures of a year ago. On March 31, this year, cotton in the hands of consuming establishments totaled 5,559,265 bales compared with 2,287,552 bales on the same date a year ago. Cotton in public storage and compresses totaled 6,615,516 bales on March 31, of this year.

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Cotton on hand March 31 included: in consuming establishments, in cotton-growing states, 1,334,991 bales, compared with 1,895,198 a year ago; and in the New England states, 182,536 bales, compared with 329,849. In public storage and at compresses, in cotton-growing states, 6,583,687 bales, compared with 3,605,574 a year ago; and in the New England states, 22,366 bales, compared with 54,974 a year ago.

Cotton consuming spindles active on the last working day in March dropped from 21,711 last year to 20,425 this year. Cotton spindles active during March included: in cotton-growing states, 16,363,000, compared with 16,595,000 for February this year, and 17,099,000 for March last year; and in the New England states, 3,677,000 compared with 3,781,000 and 4,184,000.

Department Of Justice Policies Flayed

Lashing out at activities of the anti-trust division of the U. S. Department of Justice, John W. Anderson of Gary, Ind., president of the National Patent Council, March 11 charged "economic planners" in the ranks of the government agency with a diabolical plot to obtain control of American production facilities through intimidation and other means. Speaking at a luncheon meeting of the Dayton (Ohio) Patent Law Association, Anderson said, "By our

preoccupation . . . we have permitted to spawn within our government subversive factors that have been fabricated skilfully into a supergovernment which, in its mounting arrogance, makes mockery of our Constitution, our Congress and our courts. If not destroyed, this creature may soon achieve complete mastery of our industries and of the destiny of every citizen."

By subversive attacks on the nation's patent laws, trademark, copyright and fair trade laws and by threats, to business men, of criminal prosecution, the patent council head contended, anti-trust division "planners" are scheming to take over complete control of facilities and opportunities for production in America. "Planners of the anti-trust division," asserted Mr. Anderson, "are credited with the authorship of the succession of Science Foundation bills, beginning with the Kilgore 'Science Mobilization Bill' in 1942 and following through to those now pending. That division is also credited with most of the draftsmanship of the Atom Energy Bill. Its planners appear to have no fear of giving government further control of research under proposed Science Foundation legislation.

The speaker quoted a recent statement by the Attorney General in which he said he believed that since he had taken office the Department of Justice had filed almost as many suits as were formerly filed in the entire history of the United States.

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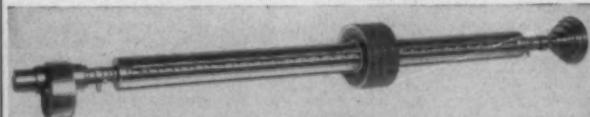
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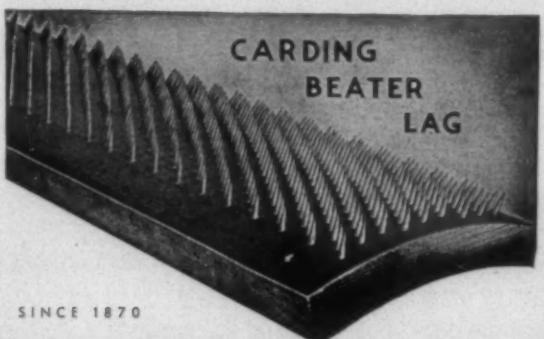
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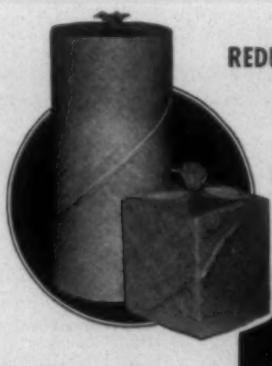


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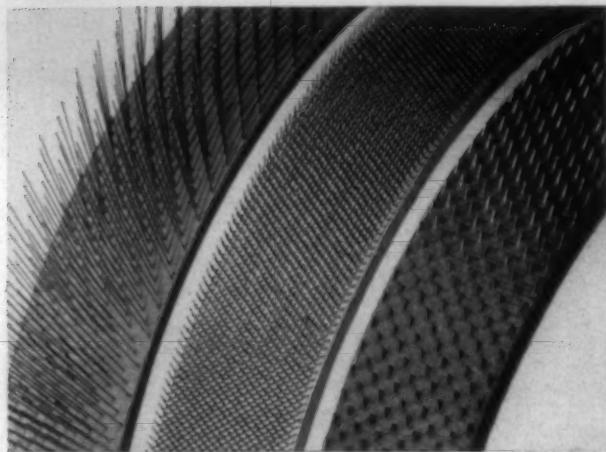
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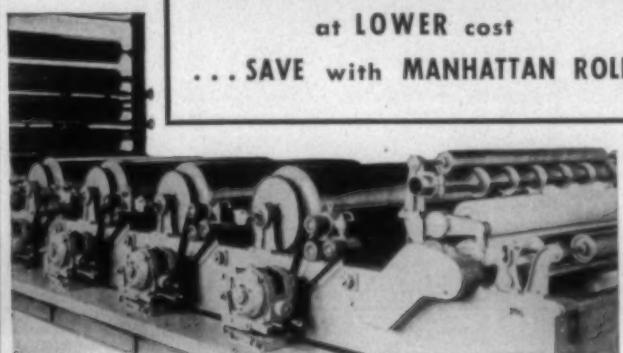
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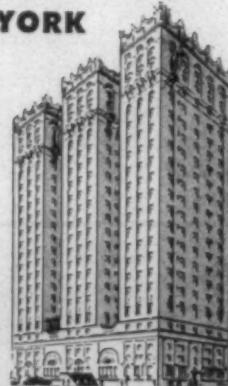
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- TEXTILE INDUSTRY HAPPENINGS AS THE MONTH ENDED -

MILL NEWS

BURLINGTON, N. C.—Frissell Fabrics, Inc., recently received a charter to manufacture fabrics, yarns and other products. Authorized capital stock is \$500,000 with subscribed stock \$3,000 by F. D. Frissell, Jr., and W. L. Schoffner of Burlington.

TALLADEGA, ALA.—Bachmann-Uxbridge Worsted Corp., which operates eight plants in the New England states and two in Georgia, has begun preparations for making yarn in a newly-leased mill in Talladega, formerly occupied by Highland City Mills, Inc., with full production slated by Oct. 1. Bachmann-Uxbridge recently closed its big Glenark Mill in Woonsocket, R. I. W. E. Eastman, an official of the firm, stated, "We are definitely not sending the mill South. We hope someone will buy it and the workers will still have their jobs."

CHEROKEE FALLS, S. C.—Henrietta Mills here resumed operations April 18 after having been closed down for a week because of lack of orders. The plant employs about 600 persons.

JOANNA, S. C.—Approximately 1,600 Joanna Cotton Mill employees recently received wage dividend checks averaging \$187 per person, it was announced by Walter Regnery, president of the mill. This marks the 11th year since 1937 in which the Joanna employees have participated in such a profit-sharing plan. Each employee eligible for a full bonus receives 9.1 per cent of his earnings for the past year and the bonus checks totaled \$299,360. The total dividend declared is 38 per cent more than the one declared a year ago and almost 200 per cent more than the one paid in 1947. Mr. Regnery stated that over one million and a

quarter dollars has been paid in bonuses since the inauguration of this profit-sharing plan.

PERSONALS

G. C. Truslow, who has had approximately 35 years of continuous service with Fieldcrest Mills at Spray, N. C., was honored recently upon his retirement from supervisory duties at the finishing plant. Also honored was A. D. Purdy, who had 32 years of continuous service. . . . Daily Gambill has been named assistant foreman of jack spinning in the Fieldcrest blanket mill at Draper, N. C. He joined the firm in 1941.

H. W. Kiser, who previously was associated with Abbeville (S. C.) Mills Corp. and other Deering, Milliken plants, has accepted an operating executive position at the Revolution rayon plant of Cone Mills Corp., Greensboro, N. C.

John P. Batson, president of Batson Mfg. Co., Greenville, S. C., recently announced his candidacy for re-election as an alderman in the Greenville Democratic primary May 31. Batson Mfg. Co. produces hardwood products for the textile industry.

Dr. J. M. Newton, research supervisor for Clinton (Iowa) Industries, Inc., has been appointed director of the company's technical sales service department. In his new post, Dr. Newton will supervise the basic and applied research, pertaining to sales, required to meet the growing demands for Clinton special service by customers with technical problems.

John W. Arrington, Jr., assistant treasurer and vice-president of Union Bleachery, Greenville, S. C., has been named South

Carolina chairman for Rotary International's 40th annual convention at New York in June. Mr. Arrington is a past district (South Carolina) governor of the state's 45 Rotary clubs.

Walter E. Hadley has been unanimously elected to honorary membership by the council of the American Association of Textile Chemists & Colorists. Mr. Hadley was a charter member of the society and first national secretary during a term of seven years. Retired the past five years, he served ten years with Standard-Coosa-Thatcher Co. as superintendent of dyeing, bleaching and mercerization; as chief chemist of Clark Thread Co.; and with Roessler & Hasslacher Chemical Co. as research chemist.

John H. Dillon, director of research of the Textile Research Institute and the Textile Foundation, left recently for England, Sweden, Holland and France for a month of conferences with directors of laboratories in the British Isles and on the Continent who are engaged in wool research.

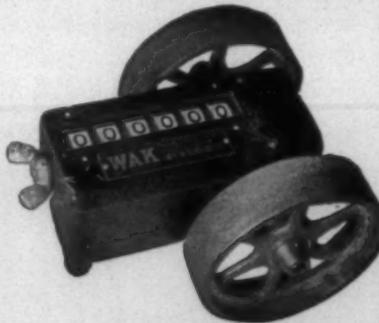
Col. Elliott W. Springs, president and general manager of Springs Cotton Mills, will receive an honorary doctor of laws degree from the University of South Carolina at the school's commencement exercises in Columbia June 6.

OBITUARY

W. Arthur Murphy, 57, former assistant treasurer of E. I. du Pont de Nemours & Co., Inc., and wartime deputy director of rubber reserve for the government, died April 16 at his home in Baltimore, Md. He had been in failing health for several years. Surviving are his widow and a sister.



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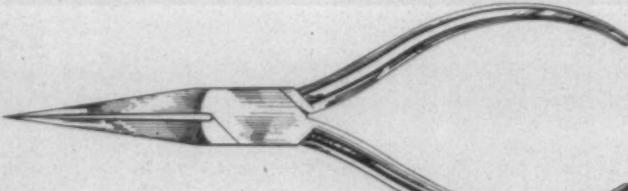
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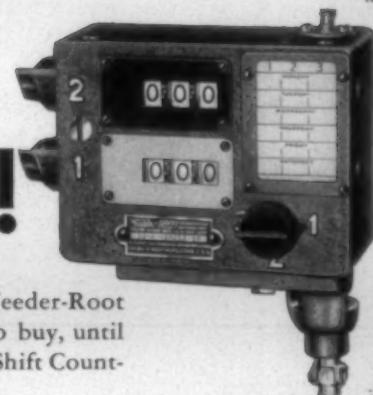
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